TATTLETALES



HO'S THE BOSS?

TELECOMMUTING **UNDER SCRUTINY**

Health care privacy regs force policy review

BY JULEKKA DASH To comply with government regulations, health care organizations aren't just overhauling their operations. They're also reviewing their telecommuting

The privacy rules of the Health Insurance Portability and Accountability Act. with which health care organizations must comply by April 2003, states that unauthorized persons can't have access to private medical data. That has prompted several health organizations to review their telenuting policies to prevent off-site privacy breaches. "At work, you can make sure

people don't enter a facility unless they're authorized, but at home, it's different," said Jim Hudack, CEO of UnitedHealth Group Inc.'s technologies division in Minnetonka Minn Although Hudack doesn't think HIPAA will force UnitedHealth to ban telecommut ing altogether, he said the compagy has to "be careful about what we let people work on at

Telecommuting, page 14

USERS HOLD BACK ON PLANS FOR .NET

Development platform focused on Web services still confuses customers

BY CAROL SLIWA Getting a firm grasp on the Net initiative that Microsoft Corp. launched more than 10

hare hands Even one of Microsoft's top executives. firm Alichin, publicly

acknowledged last week, "I know it's been confusing." The result? Many IT professionals at last week's Gartner Inc. conference, Windows 2000 and Beyond, said they haven't been seriously think-

ing about or making plans for the .Net world that Microsoft has been promoting. Allchin spoke at the conference about his company's new Web sermonths ago might be likened vice-focused development plat-to carchine a fish with one's form strategy.

"From a business erspective, I need justification, ROL before I buy something different," said los

Drozynski, an IT project man-ager at Capital Blue Cross in Harrisburg, Pa. "Net is a vision, and I don't see it as something I can take to my CIO." Calling Net "total vapor-

ware," a Windows NT project leader and manager at a Midwestern publishing firm said, "I know it's how they plan to bring everything together. It just sounds too buge to ever work." "I think I'm as confused as everybody else is right now [.Net] seems to be a moving

target," said Dennis Lionberger chief of architecture for Marin County, Calif. "Right now, it's not well defined enough to mean much to me. I'm not sure Microsoft is sure what it will Net Plans, page 16

ON 5 INDUSTRIES

Targets include auto, finance, new CEO says

BY MICHAEL MEEKAN AND LEE COPELAND BLADWIN

Ariba Inc., sporting a fresh CEO after a bad quarter, announced nt its annual user confe here last week that it will con centrate its development ef forts in five vertical industries, even though some users in those fields have already cho-

sen competing vendors.
The market-leading e-pe curement software company has targeted financial se high-tech and consumer pack aged-goods firms. CEO Larry

er a solid return on investment But customers were sh cal that Mountain View Califbased Ariba could obtain the critical mass it seeks. The mas ket for purveyors of onli Ariba, page 7

clier said he believes the customers' allegiance is up for grabs and that they will switch to technologies that can deliv

MANAGING THE

THE NEED FOR UP-TO-DATE VIRUS protection is greater than ever, but it's a big

headache to update the hodgepodge of antivirus software from multiple vendors on hundreds of machines. IT security managers say there's got to be a better way. Story begins on page 66.

Ideally and the Alexander belong the filler SEMBLIFTS SUCCESSION OF AT LUTISO -652 mest act at an

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NH NECK HT 40106-0004





WE DIDN'T JUST JUMP ON THE INFRASTRUCTURE BANDWAGON.
WE BUILT IT.

IT'S TIME TO SET THE RECORD STRAIGHT.

LONG BEFORE OUR COMPETITORS EVEN ADDED THE WORD "INFRASTRUCTURE" TO THEIR VOCABULARY, WE WERE BUSY CREATING IT. SINCE WE FIRST LAUNCHED UNICENTER! IT HAS BECOME THE DE FACTO GLOBAL STANDARD FOR MANAGING ALL eBUSINESS INFRASTRUCTURE. BUT WE DIDN'T STOP THERE-WE'RE ALSO THE WORLD LEADER IN SECURITY AND STORAGE SOFTWARE, EVERY DAY, OUR SOFTWARE HANDLES OVER 180 MILLION TRANSACTIONS, PROTECTS \$50 BILLION IN WIRE TRANSFERS AND STORES 40 MILLION SECURITY EXCHANGES, EXPERTISE DOESN'T HAPPEN OVERNIGHT. IT'S TAKEN 25 YEARS OF HARD WORK AND LEADERSHIP TO GET TO BE THE BEST, SO WHEN WE SAY YOU CAN TRUST EVERY ONE OF OUR 18,000 EMPLOYEES AROUND THE WORLD TO DELIVER THE SOFTWARE AND SERVICE THAT YOUR eBUSINESS' SUCCESS DEPENDS ON, WE REALLY MEAN IT.



YOUR EXISTING
CAT-5 NETWORK.

(WHEN YOU USE
INTEL PRO GIGABIT
SERVER ADAPTERS.)



Gigato capability on your current Carls network ent a pee dream. Wen letel PRO-1000 T Soner Adapters you can increase your bundwidth capacity by a masses his times. These gigato stapeties work with your existing 10 1000/spc perhadors and will seamlinesly remore to 10000/spc. And they in not yout super-fast. They is super-fast-bit in his PRO-1000 T Soner Adapters of the advanced severe features like load balancing and fast followers. Amplies goodwing registers like I PRO-1000-of Corrections the intelligent will be connect from one information and a shall, well relationship formation.





SERIOUS SECURITY FLAW

io Microsoft's Internet Informa-

ion Services 5.0 leaves Windows

2000 vulnerable to a devastating

COMPAO JOINS HP to drop-

piog out as a reseller of Unisys

32-processor servers, raising

questions about the market's

STANDARDS FOR structure

and content of XML-based docu-

readiness for the big boxes.

meots are approved by the

World Wide Web Consortiur

A VELLOW PAGES-STYLE

business-to-business directory is

SATELLITE AND WIRELESS

coming a reality for some corpo-

antitrust division tells Congress.

communications systems trans-

form a procesy store delivery

fleet into mobile information

10 IP TELEPHONY is finally be-

launched by major vendors, but

few end users have signed on.

y. Chuck Ryan



BALANCING ACTS

ravel can be facts of life for IT o

NFWS

BUSINESS

DOT-COM REFUGEES now back to traditional on

but are they worth hiring? ONLINE INSURANCE gains steam in the banking industry as Web-specific risks grow.

- WORKSTYLES BLUELIGHT.COM has been in high gear since Kmart launched
- its new ad blitz. HIPAA PREPARATIONS are well under way at health care companies, but there's still a
- long way to go. MEASURING BUSINESS and IT alignment is possible, thanks to a new methodology.
- **48 TRAINING EXECUTIVES** overseas is a challenge, but it can be critical to the success of global IT projects.

50 INVENTORY TURNS, or the speed with which companies un-

- load inventory, can have a major rate users after years of hype. impact on the bottom line. ANTITRUST LAW ensures that high-tech business remains competitive, the man pominated to lead the Justice Department's
- 24 MARYFRAN JOHNSON 14 COMPLEX REGULATIONS in writes that Microsoft must the health care industry force IT work with other companies to managers to handle relationhelp ensure the security of ships with consultants carefully. their customers' data
 - Editorial Letters ... 24, 25, 32 How to Contact CW 70 Company Index76
- 24 PIMM FOX sees B2B success stories at private exchanges. 25 LENNY LIEBMANN offers a

56 FIXED WIRELESS services provide a cheap alternative to Digital Subscriber Lines and TI lines for some companies. PERMITY IOURNAL

TECHNOLOGY

- 58 AN ELUSIVE VIRUS forces security manager Mathias Thurman to play it safe - and annoy the affected user - by wiping
 - the system clean. COMPLETE THE Computer Revolution by making machines
- serve people, says MIT computer guru Michael L. Dertouzos. 62 BUYING PCs for the enterprise forces IT managers to focus on stable configurations, reliable support and long-term business
- relationships. EMERSING COMPANIES 68 DATACERT'S WEB-BASED ShareDoc/Legal billing system facilitates transactions between corporate legal departments and contride law firms. And it's integrated with many legal manage-

ment systems.

sumers' accounts, this might be the time for banks to use customer relationship management to upsell. cross-sell and sell new products, according to lim Goldfinger, a senvice president and general manager at Boston-based Xchange Inc.'s Customer Value Management business unit, in our E-Commerce Come www.computerworld.com/ ecommerce. Could you conduct a

hist at Dayron, Ohio

Tis the season to upself: With a lot of

IRS refund checks heading to con-

- self-assessment of your security capabilities Sheri Horseman (right).
- a senior security anabased SafeCorp, walks you through the steps you need to take to audit your company's security measures in the Security Community
- www.computerworld.com/securi For the latest news about security, as well as features, analyses. Web resources and discussion forems, head to our Security Resource Center at www.computerworld.com/ securitycenter
 - fore and after J.P. Morgan outsourced its IT operations in 1996.
 - 52 JOE AUER urges IT: Be wary when you're about to agree to an "annual revenue commit-
- ment" to a vendor. 78 FRANK HAYES says that for banks to convince customers to share their private data. they'll have to show them some real benefits.

Think of it in terms of personal relationships. 28 JOHN GANTZ balances some

- economic data with insights into IT spending BILL LABERIS notes that Nothing in IT happens as fast as the pundits claim it will. But
- eventually, it does 42 PAUL A. STRASSMANN

still relatively untested in

Another issue is that the

concept of partitioning - a

technique that's long been

used in the mainframe and

Unix worlds - is still new in

the commercial Intel server

scace and may take more time

to gain wider acceptance, said

James Garden, an analyst at

Technology Business Research

Inc. in Hampton, N.H. As a re-

sult, most users are likely to

ments, she said.

XML Group to Create Voting System Specs

said the new technical con will work to develop an Ele

Congress Pushes For a Federal C10

A bill introduced in the U.S. Sons last week would require the ap-pointment of a federal CIO to over e the government's \$44 billion (1 tion. Sponsored by Sons. Joe rman (D-Conn.) and Conrad va (R-Mort.), the log se of Representatives. The No House is planning to add of CIO duties to the yet-to-

Short Takes

The U.S. DEPARTMENT OF COM MERCE said it's creating a priva advisor position to monitor com-ance with the data privacy polic ported on its Web sites. A scole so, Calif.-based maker of dos

ed by Atlanta-based security or INTERNET SECURITY SY

ATDEADLINE Compaq Discontinues Large Unisys Server

Move raises auestions about market for 32-processor Intel boxes, analysts say

OMPAO Computer Corp.'s decision tn stop reselling Unisys Corp.'s 32 processor ES7000 server, a month after Hewlett-Packard Co. said it was doing the same, raises questions about the commercial market's residiness for highly scalable Intel Corp. servers, analysts said. But executives from Unisvs insisted that there is a growing demand for such scalability in the Intel space and said they would continue to vigorously push the system, which the

eompany is positioning as the most scalable server for Windows 2000 Datacenter. We are skating to where the puck is going," said Peter Sam son, a general manuer at Blue

Bell, Pa-based Unisys Launched last year, the ES7000 server is based on a proprietary Unisys technology called Cellular MultiProcessing (CMP) that, among other things, allows users to partition a single 32-processor Intel server into multiple, smaller boxes. Unisys has been positioning the Windows 2000 Datacenter servers as a cheaper and more powerful option to Unix servers for tasks such as

hase hosting. Unisys has signed up com-panies such as Dell Computer Corp., Japan's Hitachi Ltd. and England's ICL, in addition to Compaq and HP, to resell the ES7000. Last week though, Compag backed out of the agreement, saying it wanted to focus instead on selling its own eight-processor ProLiant servers, which account for 95% of high-end server sales, accord-

ing to the company. That statistic, combined with the softening economy, caused Compag to re-evaluate its ontions, said Tim Golden a company spokesman.

A month ago HP also dropped its agreement with Unisys because comparable

technology being developed internally at HP was coming along faster than expected, according to Gary Erickson, an HP product manager.

The defections by the two companies aren't very surprising, given the current softness in the economy and the lack of overall user readiness for technologies such as these, said lower Becknell on analyst at Aberdeen Group Inc in Boston. "Not many people are ready to scale to 32-processor Intel servers just yet," Becknell said.

For one thing, the Windows operating system and Windows-based applications are

first turn to four- and eightway Intel servers before looking to larger boxes, Becknell

But some users whn are already using the ES7000 say it offers a great platform for consolidating workleads from multiple smaller Intel servers.

ning core applications, said Ray Pedden, executive vice president at Health eConnex, a Park Ridge, Ill.-based application service provider for the health care market. The company uses a 16-processor ES7000 tn run a core transaction processing application that would have otherwise required "a whole server farm to accomplish," he said

what I had in mind," for run-

Ans Unified School District in California has solit a ló-processor ES7000 into two eightprocessor halves - one for running student applications. the other for financial applicatinns, said Paul Bewley, the district's director of IT. The applications were migrated off an older proprietary Unisys platform. "We wanted something that was higger, faster and cheaper," Bewley said.

The 60,000-student Santa

Linda Rosencrance contributed to this report.

Microsoft Warns of Windows 2000 Hole

BY JAM COSTELLO AND JENNIFER DISABATINO Microsoft Corp. disclosed last

week that an "extremely serious" flaw in an extension included in Windows 2000 could allow a melicipies haden to gain comp cc...trol of any computer running

the internet information Services (IIS) 5.0 software built into that operating system.

urged all IS 5.0 upers to install a patch, available online (see chart), that's supposed to fix the probl There are no reports that the flow

Scott Culp, a program manage at Micronoft's security response center, said it's "imperative" that anyone running ItS 5.0 apply the patch. The hole is especially sen ous because it could enable an attacker to non code that would give him complete control of Win

There is fiterally nothing (an attacker | could not do," Oulp said Microsoft said the vulneral: is caused by an unchecked but in an extension that provides

native support for internet pris capabilities within Windows 200 Culp said the hole will affect

only those users who have expl

Printing Protocol leature offe part of Windows 2000. The prob on all Windows 2000-based

servers, but it can be access poly via HS 5.0. The hole was first repor Acrosoft 10 days ago by eEye Digital Security, an Aliso Vieto advisory about the vulnerability

Fixing the Flar

explicitly turned no IIS 5.0 and the Inter-net Printing Protocol feature offered as part

According to that advisory, a litter on Microsoft's Internet Serve application programming interface extension that controls the Internet nting commands "does not do proper 'bounds checking' on user-inputted buffers." That make the server succeptible to buffer overflow attacks that could give kers the keys they need to go Once that's accomplished.

Multiwi said, an attacker could view all of the files on a proving iver and execute any command what obscure, security analysts said ways to exploit it are sure to be developed and shared eEye, said it is posting "a proof

of-concept exploit that can'll be As a result, system tors need to act quickly to ensure that their corporate servers don't get attacked. Maifret said. "As soon as somebody is at (the hole), they need to inshouldn't welt an hour or a day."

cresoft has posted 18 secu Indiction for \$5.5.0 since James Costello is a reporter for the

Web Group Adopts Specification for XML Definitions

Aims to broaden, unify data interchange

BY STEPHEN LAWSON

The World Wide Web Consortium last week announced at a conference that it had formally spproved a recommended specification for defining the structure and content of XMLhased business documents. The decision means that consortium members have reviewed the XML Schema spec-

ification and deemed it stable. The specification defines how programmers should describe data types and documents based on XML technology, which can put identifying tags on any piece of content on the Web. Potential corporate more include business-to-business transactions that involve multiple systems such as purchase orders and invoices.

In the absence of a standard, various technology vendors and vertical industry groups have devised their own Document Type Definitions (DTD) for exchanging XML-based business data. The XML Schema specification is intended to replace those DTDs.

Attendees at the 10th International World Wide Web Consortium conference here applauded the approval. Amit Singal, a senior research scientist at Web search

the new specification should belp rein in the multiple ways of defining XML content and make the definitions used by firms more consistent. "It's going to make all kinds of data interchange possible that's not possible today," Singal said. The specification "is just way more powerful* than a DTD, said Stefan Edland, a software designer at IBM's Almaden Research Center in Son

in Mountain View Calif. said

Jose. "It allows you to be more expressive in the way you describe your documents. But another attender cau tioned that the approval is only one sten in the process of putting the specification into

actual usage "It's a milestone, yes, but I the XMI. Schemal is still going to have a lot of thex," said Soumen Chakrabarti, an assistant professor in the computer science and engineering department at the Indian Institute of Technol ogy in Mumbai, India 9

Lawson writes for the IDG News Service.

IBM. Microsoft Launch B2B

Even some founding members have vet to register Web services

IBM and Microsoft Corp. haven't yet been able to dram up much end-user interest in the Yellow Pages-style directory they launched last week and that's critical to the success of both vendors' technol-

Only a dozen or so user firms are among the group of about 260 companies, mostly vendors, that have publicly pledged to register services in the Universal Description, Discovery and Integration (UDDI) directory. And those few end-user supporters aren't on the same page regarding the directory's value. "We haven't decided whether

we'll publish our Web services." said Patrick Gutmann, business-to-business e-commerce officer at ABN Amro Bank, a division of ABN Amro Holding NV Gutmann said the \$44 hillion Amsterdam-based financial services company basn't yet defined how it will use the directory, but he joined the UDDI community to set in on the ground floor in setting stanards and shaping the registry. Wavzata, Minn.-based Carpill

targeted 2001 release date. Inc., a \$47 billion agricultural giant, and New York-based Ordidie Speaking at a Windows con-American Express Co., a \$24

Web, and there will be tremendous tools and infrastructure support from the vendors." Smaller end-user companies

also voiced skepticism about the necessity of sharing information about Web services in a public directory.

'If we design a Web service, it's nothing that we're going to want to open up and allow our petitors to get a hold of said Rob Kogan, vice president of MIS at Nautilus Insurance Co., a general liability and property insurance firm in Scotts dale, Ariz. "We're very closed about our technology and will be in the future because technology is a key differentiator in our market segment."

Publishing Web services in UDDI makes sense for only the biggest companies that dominate their marketplaces, said

ford, Conn.-based Gartner Inc., Microsoft group vice presid Jim Allchin hinted that the name isn't set in stone. Asked about the Windows 2002 name, Allchin laughed and said, "We have a little work

to do on naming. Let me just stop there." He said there would be another meeting on the naming issue. "The fat lady hasn't sung vet," he said, noting that the

client version of the upcoming operating system, formerly code-named Whistler, will def-Initely remain Windows XP. "I wouldn't be surprised if the name changes again," said Gartner analyst David Smith. *If (Allchin) has anything to say about it, it sounds like it's going to be something else."

The Windows XP client is due to be released to manufacThe Terminology ODE: A Web-based B2B directory where companies can

Credit Suisse First Boston.

Comparatively we're a sm

will say, 'Here's the defined

turine in July with the server

operating system to follow in

three to six months, company

Microsoft group product

manager Bob O'Brien said

there's a "high probability that

we're going to miss" the origi-

nally stated 2001 release date

for the server operating sys-

tem. "January is not improba-

ble" for its release to manufac-

manufacturing, it takes about

eight weeks "in the best sce-

nario" to work its way into the

That means that the Win-

dows 2002 server version may

not reach customers until

March, O'Brien said.

retail channels, O'Brien said.

Once a product is released to

officials have said

list contact information, descriptions and unique identifiers for the Web services they offer.

Simple Object Access Protocol: A protocol that allows remote procedure calls and Web services to ferry past firewalls using HTTP as its transport mechanism.

XML: A standard used to describe the data that gets

EXML: A standard that sets the terms and conditions for

Jim Miller, chief technology ofservice. If you want to play ficer at Creditex, a New Yorkwith us, you have to match up, baséd seller of derivatives to But the outlook for UDDI is large investment banks, such by no means bleak as J.P. Morgan Chase & Co. and fish." Miller said. "The big fish

The Boeing Co., for example also plans to support UDDL though the Seattle-based aerospace firm basn't determined what services to publish.

2002. O'Brien said. "B was going to be close to the end of O'Brien said his company i cognizant of the fact that, as the

product release pushes close to the first quarter, "that's when IT does their budget planning "If we're going to be in the enterprise, we have to understand that's what customers

Analysts, however, said a month or two delay for the server operating system shouldn't affect corporate customers too adversely, since most are still dealing with upgrades to the previous Wir dows 2000 operating system.

DREONLINE

face," O'Brien sand.

"In all honesty, we though we were doing the right thing. naming the product Windows

Directory: Response Slow

billion credit kingpin, are both among the founding members of UDDL But neither firm would discuss its plans to use the directors, nor have they resistered services. Ted Schadler, an analyst at

Forrester Research Inc. in Cambridge, Mass., said there's still time for IBM and Microsoft to drum up end-user support for UDD1.

*UDDI is not a must-do or die in 2001," said Schadler. "Companies need to look at this because it's the most cost-effective way to make applications and services available over the

Win 2002 Name Game Confuses

Microsoft exec hints at change for server OS

BY CAROL BLIWA Microsoft Corp. last week dubbed its upcoming server operating system Windows 2002 - and in doing so, appeared to admit that the product won't meet its originally

ference sponsored by Stam-

by delivery companies.

Trucker McLane Rolls Out Wireless Vehicle System

Allows paperless invoicing, delivery

CLANS CO. has unveiled plans install mobile comput-

ns systems in L050 trucks in its grocery-store delivery fleet. forming the vehicles into mobile information centers tied into the company's back-

Dave Dilloo, manager of ransportation at Temple, Texas-based McLane, said the project, announced last week, will cost between 510 million and \$20 million, with a payback on investment expected

within two years. Dillon said the mobile communications system, developed by Symbol Technologies Inc. in Holtsville, N.Y., provides "exponentially greater functionality" than the wireless packagetracking systems typically used

The McLane system, built I ing and delivery transactions, around an onboard communications terminal and a rugged Symbol handheld computer running Palm OS, will provide the company with a paperless

including capturing electronic signatures for proof of delivery.

Dilloo said. The system will also manage dispatch opera-tions automate driver loss and process that manages all invoicgive McLane the ability to per-

Wireless I AN Hits the Road terminal the weekess LAN connection dumos records from the day's delivenes into the terminal's wereless LAN, which then feeds the information into back-end systems. McLane uses a satellite munications terrainal with both satellite and link to send driver dispatch orders releas LAN links. At a delivery site, the driver uses a and also to perform remote dagnostics on the truck bar-code scanner to check off items on an electronic manifest and obtain a digital signature. At a McLans

form remote diagnostics on the vehicles via satellite. Drivers will use the Symbol handheld to record delivery information with a bar-code scanner and to capture electronic signatures using Track & Trace point-of-delivery software from IBM. When the driver returns to one of the 17 McLane terminals Symbol has equipped with a wireless LAN infrastructure, the ooboard communications system senses the IIM bit/sec. wireless LAN and automatically starts dump ine data that has been stored throughout the day, Dillon said.

Bob Egan, an analyst at Gort-ner. Inc. in Stamford, Coon. said the use of satellite-based information systems is wellestablished in the trucking industry.

"[But] what's emerging in a hie way is the use of multiple wireless techniques to address specific business requirements," Egan said. "We will continue to see wireless LAN adoption explode in many sectors of the [transportation] market, because unlike widearea terrestrial wireless and satellites, wireless LANs can deliver higher speed and support preater capacity demands

Ricochet Wireless Faster Than Advertised leed 128% bit/sec data rate.

But availability is limited, say users

In an era of endless techno-

hype, the high-speed Ricochet bile wireless service from Metricom Inc. stands out for delivering more than it promises, according to users. But because its availability is limited to only 15 U.S. markets. San Jose-based Metricon

ses a connection speed of 128K bit/sec. in all but two of its markets - Seattle and metroolitan Washington, the company's original service areas. Those two markets, offering 28.8K bit/sec., have upgrades nned, but those have yet to

However, users in the other treas told Computerworld last reek that they routinely con-

Ed Lynch, assistant vice president for network teleunications and desktop services at Credit Lyonnais Securities USA Inc. in New York said average connection speeds in the center of the city run as

460K bit/sec., though speeds tend to drop off in the outer Credit Lyonnais has purchased 50 Ricochet modems for its IT staff, which uses the service to connect to the compagy's virtual private network (VPN) while on the road. Lynch said he isn't concerned

out the security implications associated with a wireless connection to the company's systems. Using a VPN means "this is a fully encounted service," he said. "Someone would have to go to a lot of time and expense to capture this [data]." Lynch said he has only two

complaints about the service: its limited geographical reach

and its cost. He said he considers the small national footprint of the service a serious limitation that inhibits rollout to other parts of the bank, and he calls the fee of \$59 per month. per user "a little high." Credit Lyonnais receives a volume discount from what is actually a \$79-per-month individual subscriber fee for unlimited

Alan Foster, vice president for government and community affairs at Sanyo North America Corp. in San Diego, said he routinely connects to Ricochet at anywhere from 248K to 260K bit/sec. from his office close to the Mexican border, as well as from his home in Scripps Ranch in the north of the vast county of San Diego. He said his connection speed

has peaked at 460K bit/sec. "This is better than DSL," he said, referring to the Digital Subscriber Line service available from phone companies.

oster said he has evaluated Ricochet for companywide de-ployment, but he noted that it's difficult to push the service because of its lack of a nationwide infrastructure. Like Lynch, Foster said he finds the monthly fee rather steep. Roger Hodge, owner of

Hodge Printing Co. in Dallas said he considers the Ricocher service a bargain, since he uses it in fixed mode in lieu of a DSL line which he estimated would cost him about \$150 per month.

Fast but Pricev Ricochet offers the following: a Service for S79 per month for un ited airtime and volume discounts: S50 per month for enterprises with more than 20 accounts

Hodge said he gets average connection speeds of 225K bit/ sec. He said he finds Metricom's approach refreshing compared with that of cell phone carriers, which have hyped next-generation service at speeds of 144K bit/sec. but say average speeds will he in the 50K to 70K bit/sec. range. Metricom "underpromises and overdelivers," Hodge said. while the cell com doing the opposite."

John Cornwell, vice president

where needed."

of business development at Metricom, said that while the company is well aware that its mers routinely experience higher speeds, it plans to stick with promoting and guara-ing the 128K bit/sec, speed. Cornwell said not only can Metricom deliver 128K bit/sec. today, but it can also contin to do so in the future as it adds omers and increases the load on the network.

According to Metricom, that's because it uses a patented "mesh" network architecture that preserves throughput then users are added.

business in places you never dreamed of



Cap Gemini Ernst & Young can take your

extended enterprises and peer-to-peer applications. If your company is not there, where exactly is it?

As one of the top global management and IT

such as automotive, energy, financial services, aeros and life sciences. In fact, Gartner, a top research and

Dell Recalls Ratteries

Starbucks on the LAN

r Force Blasts Patch

IP Telephony to Take Center Stage at Networld+Interop

Cisco and Nortel among vendors to show latest technology to users and prospects

S NETWORK equipment buyers and veodors gather this week at the Networld - loterop (N+I) conference, both camps will have a special type of convergence on their minds; sending voice and data as IP packets over a single network

Networking juggernauts Cisco Systems Inc. and Brampton. Ontario-based Nortel Networks Corp. are targeting corporate users with the products they will put on display at the Las Vegas event. Meanwhile competitor 3Com Corp. in Santa Clara, Calif., has already successfully bagged many small and midsize operations with offerings it will tout at the show IP telephone technology will

also be in the minds of showgoers representing organizations that have already rolled out such systems, including such prominent companies as Merrill Lynch & Co., Datek Online Brokerage Services LLC. and The Dow Chemical Co., as well as educational institutions such as the University of Arkansas at Pine Bluff and Lakehead University in Thunder

Bay, Ontario. Jemping the Gun

Cisco couldn't wait for N+1 to release new product information and last week announced a system that would put a subset of its Call Manager software on its routers or switches at branch offices. eliminating the need for a Call Manager server at each site

Capt. Chris DiNofrio, a U.S. Marine Corps data systems officer in New Orleans, said the Cisco feature could save some serious money. He's rolling out a Cisco IP phone system that will connect 180 Marine Corps Reserve centers across the country. "I don't want to put a [Cisco Call Manager] server that costs \$15,000 at each site." DiNofrio said.

Nortel officials were mum

about the IP telephony announcements they plan to make at N+1. But in response to Cisco's announcement, a Nortel spokesman countered that the voice-over-IP features Cisco is introducing, such as unified messaging, are already

Larry Hettick, vice president of consulting at Telechoice Inc. in Tulsa, Okla., said, "Nortel has IP-enabled their existing PBX (private branch exchange) system." He noted that corporate users that already have a Nortel PRX may find this a good way to implement ao IP phone system. Lakehead University is installing a Nortel IP phone sys-

built into Nortel's existing IP dent. Fred Gilbert, said. "Using the existing Category 5 Ethernet cable to send voice as data is a very cost-efficient way [to deploy a phone system I for this

Rolando Garcia, chief network architect at Datek Online, said his company installed 350 Cisco IP phones a little more than two months ago and plans to install another 1,000 IP obones by the end of June.

Citigroup Extends Payment System to MSN Customers

Citigroup Inc. signed a deal last week to provide its personto-persoo payment system, dubbed c2it, to subscribers of Microsoft Corp.'s MSN Internet service. But analysts say such vectures rarely turn a profit and aren't garnering a

critical mass of users. Citigroup's agreement with Microsoft will open the payment service to MSN users, allowing them to send and receive cash via e-mail. The New York-based financial services provider said the agreement with Microsoft is

part of a strategy to reach new audiences through "targetfocused partnerships" with ooline brand-name companies. In October, Citigroup agreed to offer its online-payment system to America Online Inc.'s 26 million subscribers

The person-to-persoo pay ment system works via an e-mail service that allows users to send messages instructing banks to transfer money from their accounts, such as a credit card or debit card account, to another person's or institution's account. Recipients of the money are notified via e-mail that money is waiting for them, and they can obtain it through an electronic account or a paper check.

it's doing away with a fee of \$2

tronic-payment service. The service is free of charge for the first three months in which a member is signed up: there-after, there is a minimum fee of 50 coots per transaction, up to a maximum of 2.2% of the amount of the transaction. The fee depends on the type of transaction — whether it's a

transfer from a savines account, a transfer from a checking account or a credit card payment, for example — and on the type of credit card used. Ken Kerr, a payment systems analyst at Gartner Inc. in Stamford. Conn., said the introductioo of the service on MSN is insignificant to the marketplace because e-mail payment

systems have yet to gain mass popularity or return profits. But Citigroup's lower pricing

More Coming Other upcoming enhancer of Citigroup's online payment system include the following:

m The ability for U.S. residents to send money from their desktops to recipient in 30 countries, scheduled for mid-May

A line of credit triving to the account-topsed card, also planned for year's end

he said, is strategically smart because it shows that the financial services firm recognizes that the value in online payment systems lies in its "sticky factor," or the ability to keen customers around by of-

fering added services. "There just isn't a lot of money to be made in parents sending money to kids at school." Kerr said. "I think it's an attempt to create a live transaction mechanism, with some realistic hope that some-

one will use it." Chris Jolley, director of marketing for MoneyCentral, the MSN Web page on which the c2it service is located, said the service will bring Microsoft additional advertising from "very targeted placement and

Jolley also disagreed with analysts' predictions of slow adoption, noting that online payment technology is still in its infancy. "We believe ... there is incredible potential for it in the everyday financial activity arena," he said.

clude Palo Alto, Calif-based X.com Corp.'s PayPal, a service that's popular with online auction users and small online businesses, and Columbus, Obio-based Bank One Corn's cMoneyMail.

Wells Fargo & Co. and eBay Inc. recently announced a sin ilar agreement to offer Billpoint Inc.'s payment service.

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Antitrust Nominee Shows Poker Face on Microsoft Case

Says high-tech antitrust 'one of the top priorities' but avoids discussion of case

THE PERSON who's expected to become the head of the U.S. Justice Department's antist division, attorney Charles James, said at his confirmation raring last week that the high-tech industry should be and that the role of antitrust law is to return such compe-

Speaking before the Senate Judiciary Committee, James gave no indication of whether the Bush administration would shift course on the Microsoft lawsuit, arguably one of the st important antitrust cases

of the past 100 years. In the case, U.S. District Court Judge Thomas Penfield Jackson sided with the Justice ruled that Microsoft Corp. had engaged in anticompetitive business practices and abused its monopoly power in the desktop operating systems market. Microsoft appealed the ruling to the U.S. Court of Appeals. The court's decision

could come at any time. Once the appeals court rules on Microsoft, the Bush administration will have to decide its next course of action: seek a new round of settlement talks or continue the legal battle to the U.S. Supreme Court. The only insight James ofsoft and other pending antitrust cases was that the department will "look as closely as possible to preserving victories and rectifying defeats," James was an antitrust official in the Justice Department during the administration of the elder George Bush

Committee Chairman Orrin G. Hatch (R-Utah), who has repeatedly expressed concern about Microsoft's power, didn't ask James about the Microsoft case directly

"Do you think monopoly power is more likely to occur in high-tech industries than in

fered on the future of Microother industries? If so, what are the implications of your conclusion for antitrust enforcement?" Hatch asked. In response, James said that

the issue was "one of the top priorities" for the antitrust division. The company that's first to market with a product "may have a prevailing market position for some period of time," James said, and the Justice Department didn't want to "discourage" innovation. The rapid pace of change has

to be considered in evaluating high-tech industries, he said.
"However, I think that these industries need to be competi-

tive just like other industries. so there is a continuing role for antitrust," he added.

Sen. Patrick Leahy (D-Vt.) questioned whether James, who has represented clients against government antitrust enforcement actions, will be able to do a "180-degree turn now and enforce anti-

trust loves." James said that he plans to avoid "ethical complications" or the appearance of such, adding that he will do whatever the fustice

Department's

ethics staff tells him to do, "without ques tion." James is a partner in the Washington office of Jones, Day, Reavis & Pome.

FTC Official Faults Corporate Privacy Policies

But businesses say feds are partly to blame

ARLINGTON VA

Many corporate privacy policles are too heed to find too long and too confusing, according to U.S. Federal Trade

who said she believes companies need to standardize their policies in much the same way that food companies use nutri tion labels that make it easy for consumers to count calories. In short, many privacy policies are beginning to look like complex legal documents that

do not give consumers real choice," said Anthony. Amone the trends Anthony cited at the first annual Privacy

and Data Protection Summir was a tendency among some companies to establish privacy policies that grant them sweeping rights to sell and transfer customer data. But some corporate officials

at the Privacy Officers Association-sponsored conference here said the federal government should shoulder at least some of the blame for complex privacy polices. Executives at financial services firms, for instance, say that to comply with the privacy provision of the Gramm-Leach-Bliley Act, the financial modernization law approved in 1999 and taking effect July I, company privacy policies must include legal language from that act as well as from

Citigroup Inc. in New York has addressed that problem by creating two versions of the sioner Sheila Anthony. privacy policy it sends to consumers. One version is struc-

tured to meet the requirements of the law, but a second version outlines the company's privacy policy in 10 concise points. Customers tend to prefer the latter version, said Stephen Durkee, Citigroup's privacy implementation officer. The feedback Citigroup has

received from customers is that "this sounds like it really came from you, and not from your lawyers," Durkee said. Harriet Pearson, IBM's chief

privacy officer, agreed with Anthony. "We need to work toward making [privacy policies] simpler," she said, but added that it's an evolving process. Just a few years ago, many companies lacked privacy policies, she said, pointing to industry initiatives to improve upon those policies

There are limits to what the Federal Trade Commission (FTC) can do to make companies improve, said Anthony, "I believe the lack of comprehensive federal privacy legislation to protect consumer privacy has created a schizophrenic environment that is bound to

More than 450 privacy-relat ed bills have been introduced in state legislatures within the past few years. That raises the possibility that businesses will have to comply with a patchwork of laws, which would be an "untenable situation," said Anthony, Moreovez, it's expected that the European Union will begin enforcing its data protection laws next sum-mer, giving European residence greater privacy protection than

get worse," she added.

U.S. citizens have, she said. Congress is considering nearly 50 privacy bills, but it appears unlikely that any privacy legislation will be passed this year. "It may well take a push from the administration to get something out," said Joel director at the FTC.

Users Anticipate Integrated Lawson/Siebel Applications

Lawson Software will navell Insight 8.02, its next genera-tion of e-business and processimprovement applications, at its annual user conference in Anaheim, Calif., today. The St. Paul, Minn-based company says the new software will automate service industry e-business processes.

Users will most likely be esger to learn about the integration of San Mateo, Calif-based Siebel Systems Inc.'s custo relationship management apcations with Lawson's enterprise resource planning suite and whether they will need ex-

Group Inc. in Boston The companies announced their integration deal last year

In the slowing economy, users will also be interested in the business analysis functions Lawson has been adding to its software to help companies optimize processes, she said. Dennis Miller, ClO at Mem-

orial Healthcare System, a public hospital in Hollywood, Fla., said be wants to learn more about the migration path from the Lawson-insight 7 Series to the Lawson insight 8 Series. The application suite is Web-enabled and doesn't require special designo soft-

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Microsoft Snaps Up (Compass Labs

re MCompass Labs Inc., which software for creating and ng Web content. Terms of the est Management Server 2000, release scheduled for late in the

FBI: Lucent Scientists Sold Secrets to China

gins Inc. and a third to a Chinoso state-owned very in an effort to devolop the o of Chine." A Lucest spokes

nder TURBOLINUX INC shane, Calif., and technical on firm LINUXCARE INC. in necisco have called off a od marger because of the soft accessory and "various finanof aspects . . . that couldn't be reed upon," according to Line or CEO Arthur Tyde III . . . All THOMAS OF A London how WISH ELECTRONIC DATA SYSTEM CORP in Plane, Texas, EDS will ... In response to a polition by

Beware of Predatory HIPAA Consultants

As health care rees loom, self-proclaimed experts peddle questionable services

s rut health cure industry prepares for complex regulations that will affect most of its systems and business processes. IT managers advise taking cautious steps to avoid heing exploited by consultants The Health Insurance Portability and Accountability Act

(HIPAA) presents a hecrative opportunity for so-called experts, since noncompliance by health care officials can result in stiff fines and even ital time. The regulations define standards for electronic transactions, as well as measures for protecting the security and privacy of patient information (see related article, page 44). In addition, certain aspects

of HIPAA remain unclear, making it easy for health care providers to sign up for services they might not need. In a given week, Ronald Margolis, ClO at the Universi-

ty of New Mexico Hospitals. receives 15 to 50 phone calls from HIPAA consultants. With the exception of consultants who work for its health information systems vendors, the Albuquerque-based hospital chain hasn't used any consultanta because it's still ton early Margolis said

Some consultants have tried clever marketing tricks, such as asking Margolis to particinote in surveys that they use to gauge the kind of services his organization will need. In other instances, companies are giving away gadgets such as PalmPilots to people who respond to mailings that are really "leads to a sales call." Margolis said

Indeed, HIPAA has "certainly got [consultants] in a feeding frenzy," said Greg Walton, vice president and CIO at Carilion Health System in Rosnoke, Va. "It's really the obligation of the buyer to figure out what they want from a consultunt. for the consultant is ro-

ing to run all over them." Carilion is "40% done with HIPAA," so Walton doesn't anticipate using any consulrants himself. But he cautions against working with consultants who don't have experience in health care, because you may have to spend a lot of time explaining the context to them

In fact, clients should make sure that a consultant has experience with their specific type of health care organization whether it's an insurance company, a hospital or a clinic, said Mike Thorsen, executive vice president and chief financial officer at the Rx2000 Institute, a Minneapolis-based nonprofit organization that educates health care firms

about business and technology For instance, a consultant

who has primarily worked with insurers wouldn't he well Continued from page 1

Telecommuting

For instance, if an employee was telecommuting and his son walked into the room and saw confidential patient infor-mation, that would violate the privacy rule.

Health care organizations also need to consider whether telecommuters are describeding patient information from the network and storing it on their home computer hard drives, said James Harvey, an attorney at Alston & Bird LLP in Atlanta who specializes in privacy issues. If so, organizat need to extend security rules to

home computers, he said. "It's much easier to address security issues in a centralized mainframe environment than on a distributed basis," he said. HIPAA includes measures for both the security and priva-

But to a large extent, privacy neasures will involve educating and training telecommuters and enforcing policies. Some bealth care IT manage cy of patient informa said telecommuters who work Penalties for breaches include

suited for a clinic or hospital. because the environments are completely different, he said. "HIPAA is much more comrehensive than Y2k," said

Thorsen, With Y2k, "a lot of people were able to get away with just fixing IT," he said With HIPAA, 70% of the work will require adjustment of policies and procedures, he ex-

Assess Your Needs

tect applications on home de-

vices, such as using virtual pri-

vate networks, encryption or

HIPAA security rules, health

care managers will have to au-

thenticate who is accessing the

data, said Patrick Gentson, CIO

at Mercy Hospital in Portland.

Grotton said he's consider-

ing using a biometric device.

such as an eye or fingerprint

scanner, combined with vari-

ous layers of password prote-

tion to ensure that unautho-

rized individuals can't access

patient information.

To comply with the final

mublic-key infrastructu

plained. That includes things such as hiring a chief privacy officer and enforcing discipline for staff who violate patient privacy rules.

In addition, users should consult an attorney prior to hiring a consultant, said Thorsen. There are instances where "state regulations may supercede HIPAA," he said. Health care executives ought to assess their organization's

needs by performing a *gap analysis," which is a study that compares a firm's current HIPAA readiness against what's needed to comply with the new rules, said Joyce Sensmeier, director of professional services at the Healthcare Information and Management Systems Society in Chicago. Otherwise, "it's too easy for consultants to make the project bigger than it needs to be,"

she said. By carefully defining an organization's needs, managers can avoid cost overruns and open-ended engagements, said Scott Cebula, vice president of information systems at Memo rialCare in Long Beach, Calif. Memorial Care is creating an action plan to prepare for HIPAA and is awaiting further guidelines from the federal government before it retains

any consultants, he said. severe fines and possible pill time. To avoid these consea computer set up in the living room or bedroom are less likequences, many health care orly to invite prying eyes. ganizations said they will ramp up security measures to pro-

Employees at Cook Coun Hospital in Chicago, including systems employees who access information from home, must sign a patient confidentiality agreement prior to employ-ment, said Soloman Appava, director of systems planning But in order to comply with HIPAA, the hospital will also implement strict disciplinary procedures for any confiden-

tiality breaches, he said. To a certain extent, how hospitals may have difficulty ensuring that telecommuters are keeping data private, said

Appare.
"If the person is not honest, then you're taking a risk," he said. It may he "beyond that person's control to secure a device."

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Microsoft Again Takes Aim at Open Source

Claims efforts could lead to 'instability'

Microsoft Corp. last week renewed its offensive against open-source software development, a move that the software vendor said was made in response to repeated queries corporate users about how it's responding to the n-source movement.

The latest salvo against en-source efforts — the third by Microsoft since January - came during a speech in New York by Craig Mundie. the company's senior vice president of advanced strategies. Speaking at New York niversity's Stern School of ness. Mundic claimed that the open-source movement could result in "product instability" and "inherent security

risks" for software users. Open-source develope leads to a strong possibility of unhealthy 'forking' of a code e," potentially producing incompatible versions of proms, Mundie said. More disprice he added in the CMI seral public license (GPL) er which much open source software is created.

When a developer alters software covered under the GPL, the new code is also deemed subject to the license. meaning that it's not owned by any individual company. The problem, Mundle argued, is that the GPL does away with intellectual property rights.

ment ao unhealthy business Open-source approaches "ask software developers to give away for free the very

thing they create that is of greatest value, in the hope that somehow they'll make money

selliog something else," Mundie couldo't be reached for comment about his speech. But David Coburn, a program manager in Microsoft's platforms group, said Mundie's remarks were a response to questions from customers who want to know the software

vendor's position on open source programming. Some parts of the open-

source world are seen positive ly by Microsoft, Coburn said. Earlier this year, Microsoft expanded a program for sharing its Windows source code with users, although no changes can be made in the code.

Al Gillen, an analyst at IDC in Framingham, Mass., said Microsoft apparently feels that it can no longer remain idle while corporate users eye open-source development.

Microsoft Takes On 'Naked' PC Orders

Prizes for PC makers who report requests

ICROSOFT COSP has sparked a new controversy by sending a letter to some PC makers offering them rewards in return for identifying comorate users who ask that computers be shipped "naked," without Windows installed. Users who have made such requests may have "misunderstood" their Windows licensing agreements, Microsoft said in late April to thousands of companies that assemble PCs to sell directly to businesses. The system builders were offered prizes such as software, watches and cooking grills if they identified customers seeking Windows-less machines. According to the letter, the rewards would depend on how many naked PCs were requested by an individual user. For example, an order for 250 computers would be worth five Microsoft games to the system

builder that notified the soft-

Turning in a user who is seeking more than 1,000 PCs would net a grill and a travel chair. However, Microsoft last week said it wasn't trying to single out companies that want to install Linux or other non-Windows systems. Microsoft spokesman Matt Pills said the letter was aimed at stopping users who believe that they have a site license allowing them to install a single copy of Windows on multiple PCs said. "There's a lot of confu-

No such license exists, Pilla sion around our enterprise

agreements," he added. "In

fact, we doo't offer any enter-

noting that the .Net framework

will make applications easier to develop, deploy and main-

tain. "However, the key factor

Many firms are still assimi-

new commuters. They cover upgrades but not new copies of

Chris Le Tocq, an analyst at Guernsey Research in Los Al-tos, Calif., said the team at Microsoft that seot the letter "could certaioly be deemed overeothusiastic (about) this program." Microsoft ight have gotten ahead of itself because it plans to address the situation with technology in its upcoming Windows XP and Office XP releases, be said. Both those products are due to include "forced registration technologies designed to combat this kind of activity" on the part of users, Le Tocq said Even so, he added, it would belo small businesses if Microsoft were to make volume Windows licenses available.

Gray writes for the IDG News

Continued from page 1

be. My first take is to wait for em to figure it out." At the Gartner show, Allchin tried to clarify the .Net message by boiling it down to the

wing five points: A pew programming me that's "loosely coupled, XMLbased, message-oriented* for developers to use in a beterous environment into sted for the Internet.

Meta-Internet services, such as Microsoft's Passport, an identification service that consumers can opt into to personalize their Web experience.

Tools such as Visual Studio.

Net to create new Web seres with XML a "Great clients and servers"

that are equipped to parse and process XML and handle mes-

in the letter, which was issued sages sent using the Simple Object Access Protocol. ■ Web services to which developers can program. For in-

stance, a developer might want to link a flight-booking application oo one site to a car-book ing application on another. What fim said added a little more detail and more pieces of

the puzzle for people to figure out," said analyst David Smith at Gartner in Stamford Conn. But Allchin didn't clear up the confusion, he added, "Net is a huge thing, and they haven't done a very good job of describing it thus far," Smith said.

He said one miscue was Microsoft branding its enterprise servers with the ".Net" moniker, even though the ".Net enterprise servers have nothing to do with toftware as a service

or Web services."

No matter how confusing the message, one .Net element that's expected to affect most

large enterprises is the new development tools. Gartner predicted that most companies will caually leverage both .Net and lava platforms for e-business within five years. Yet .Net won't enter the realm of possibility for most companies until Microsoft's Visual Studio Net tool ships

later in the year. Not surprisingly, serious interest in Net applications has been limited to far said Raily Tewari, director of business intelligence solutions at Seattlebased Avanade Inc., an IT consulting company that is a joint

venture of Microsoft. Tewari, who is planning his company's .Net strategy, said be doesn't expect to see proto-

type .Net applications until the third or fourth quarter. He predicted that interest will ramo up significantly by the end of next year.

Tewari said one challe

lating Microsoft's last develop will be clearing up customer confusion over the business ment platform, Windows DNA benefits that .Net can bring. "I said Rick Grandy, manager of can convince the technical arnetwork applications and sys-tems at a Richland, Washchitects, the developers, bebased division of Lockheed cruse technologically, [.Net] is a superior platform," be said, Martin Corp.

"It seems to me that .Net is trying to be both a development environment and the delivery vehicle," said Lionberger. "I expect it will change quite a bit." 9



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Are you really getting the value your company needs from your business-ontical applications? Are those appli-

cations true e-business assets? "To answer 'yes' to those questions about your compamy's enterprise server architective certain mourements must test he met "notes Rodney Sapp. Director of Product Management and Marketing for

ClearPath servers at Unitys. · Underlying hardware architecture must combine powertal processors with main-

frame design concepts to deliver the highest value and high levels of modulanty. . The hardware platform must

meet rapidly changing business requirements and allow for smultaneous deployment of current processor technologies and operating systems. · Your enterprise server plat-

form must ofter capacity condemand to meet the unpredictable needs of your e-business without forcing you to pay for over-capacity. Your entercome servers must extend core business applications and still provide

enterprise-class levels of reliability, data integrity. scalability and security The good news is that you

can have all this, and more. as the Unioys ClearPath Plus nervere demonstrate Get more information at a spenisi interactive Webcost on May 30, 2001 at 10 a.m. EST. To recrater with www.uniews.com/e-

biz/webcasts/technology.esp

U.S. Customs to Get IT Overhaul

New infrastructure will replace legacy systems

HE U.S. CUSTOMS SERVICE said last week that it has awarded a 15-year, \$1.3 billion contract to upgrade its entire FT infrastructure, including software management systems. to a multi-industry team lead by IBM

The Customs Service said an explosion in international trade is forcing it to replace a 17-year-old automated system that has experienced chronic outages and often forced end users to reort to alternate methods of doing busi-

ness, such as using pens and paper The first system to be addressed in the new IT infrastructure is called an Automated Commercial Environment, which will manage the federal agency's bring the Customs Service in line with ology used in the private sector. according to Acting Commissioner Charles W. Winwood.

The selection of an integration contractor. Winwood said, is an important first step in providing U.S. Customs with "state-of-the-art technology essential to expediting movement of commerce," through every international airport, trade zone and potential border crossing. "Customs modernization will atically enhance our ability to intercept contraband," he said.

The contract will upgrade computer dware and poftware related to commercial trade, law enforcement and adstration systems Tom Burlin, vice president of federal vernment industry at IBM Global

Services, said the upgrades will run from desktops to mainframes, "replac-ing outdated legacy systems with best practice, off-the-shelf systems." Burlin said the Customs Service

wants to move to a more automated knowledge-based system and away rious" keyboard entry used to catalog the serial number and coun try of origin of all products coming rough U.S. border checkpoints.

"It's a very complicated system," Burlin said. "We're looking to use new ercially available products that have the ability to create intelligent systems to manage and automate databases and speed imports and exports while ing the control expected for safety of trade and our citizens."

The IBM-led team, called the e-Cus toms Partnership, includes Lockheed Martin Mission Systems in Bethesda, Md., which will develop and integrate new systems and software; McLean, Vn-based KPMG Consulting Inc.: Com-

puter Sciences Corp. in El Segundo, Calif., which will lead the information security and telecom tions effort; and Miami-based Sandler & Travis Trade Adviso-

ry Services Inc., which will provide global trade and custhan 40 other firms will also be involved

The Customs Service also partnered search and develop- e

ment center in Bedford, Mass., and Robbins-Gioia LLC, a program management consulting firm in Alexandria, Va. Mitre will provide strategic planning support and independent technical evaluation, and Robbins-Gloin will head up program management support for the Customs Modernization Office. The project was mandated by the Customs Modernization and Informed Compliance Act of 1993 and other acts that require improved business functions, paperwork reduction and increased electronic processing.



with The Mitre Corp., THE CUSTOMS SERVICE wants to doploy a more automated a federality funded resecond, and developcharkneight like this one.

Study: Firms **Refocus Apps On Customers**

BY STACY COWLEY

usinesses' reasons for investing in data-management infrastructures are shifting from back-office, cost-reduction objectives to custo revenue-generating goals, according to a study conducted by the Silver Spring. Md.-based Association for Inform and Image Management Internation

(AIIM) and Gartner Inc. The survey results, which were released at last week's AIIM 2001 conf ence here, revealed that the fastestgrowing niche of the enterprise ap carious market is customer relations management (CRM), which is current Gartner's definition of the enterprise

applications market also includes enterprise resource planning (ERP), records management and archiving, ac-counts payable and receivable, and human resources ma an resources management. Totaling all five areas, 9 Conn.-based Gartner estir

market will grow from about \$11 billion

last year to \$22.5 billion in 2004. The study included responses from ately 1,000 enterprise applicaons users in North America, Europe, Latin America and the Pacific Rim. Almost half of the respondents work at companies with more than 1,000 employees, and Gartner said the survey is

more reflective of large organic than of the business market as a whole. The survey found significant interest mong corporate users in outso enterprise applications to applicati service providers (ASP), alt Gartner warned that the overall m outlook for ASPs has softened since the survey was conducted in December. The research firm also cautioned that companies may be reluctant to trust

itive data to a relatively unsecured third-party syste Companies of all sizes are showing

ignificant demand for wireless ERP and CRM applications, Gartner said. Electronic document imaging tech-nologies are the most commonly used applications, with 58% of commonly used applications, with 58% of companies re-porting that they have installed such systems. More than 45% of respondents said they use collaborative tools such at Microsoft Exchange and Lotus Domino Only one-third of those surveyed said they currently use content-m ment software, but 21% said they plan to

Cowley writes for the IDG News Service.





CA Accounting Procedures Under Scrutiny

Times article says CA skewed earnings

BY MARC L. BONDING

Executives at Computer Associones International Inc. last week defended the contram's new accounting procedures. even as the firm's stock plummeted after a negative article about the changes appeared in

Last week, UA said its finan cial reporting methods artacked in an April 39 article in and aren't an attempt to objuscate real curnings, Islandia, NX-based CA prepared a press release responding to the Times' claim that, based on standard accounting procedures, this reales have fallen almost two thirds over the last six months," and that it's using a new financial reporting system, started last October, as a smoke screen to oner it The newspaper Nised Its conclusion on CA's April to preliminary fourth-quarter results announcement in which CA stated its revenue would be \$7.0 million, a decrease from

the previous year's \$1.9 billion. Although CA had reported on a pro-forma-pro-rata basis annual revenue of \$1.44 billism. up from last year's \$1,39 billion. the article shook up investors enough to cause the firm's stock to plummer by more than Il" on April 30. In a press comference that same day, CA President and CFO Sanjay Rumar defended the numbers and said the Times hadn't fully taken into account the use of the new accounting model, which books the value of a contract

Tale of Two **Procedures**

In the case of a three-year, 53 million license fee trans-OLD SYSTEM: ALST miles

NEW SYSTEM: The \$3milton is maked monthly over the term on \$250,000 is maked each content basis: previously, CA had backed the full value of such contracts infront. Kumur said. the newspaper swerlooked the fact that under the new model. hon in "residual value," or backles, which isn't consid

Several analysis maintain

half-empty half-full water glass Both sets of numbers that A uses are useful to evaluate its performance, said Chris

Mortenson, an analysi at investment bank Dentsche Russ Alex Brown Inc. in New York While the changeover in ac-

observers cautious, there is pothing in it to lead any analysts to believe they're cooking heir books," Mortenson said. The company's cash flow has been strong, and that's the key

metric to evaluating a firm's health, he said. Fither way, the dispute won't affect CA's emergrise users, said Richard Ptak, an analyst ar Framingham, Mass, based consultancy Hurwitz Group Inc. h's just an "accounting dismore " Drub would be

Hr's just and accounting dispute.

RICHARD PTAK, AMALYST. HURWITZ GROUP, ON WHY THE CA-MEN TORK TIMES DISPUTE

Microsoft Plans to Simplify **Integration With Identrus Net**

Products aimed at financial services firms

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New York-based Identrus was established by eight leading global banks, including Amro Bank NV. Bani of America Corp. The Chase Manhattan Corp. and Citigroup Inc. Since 1997, Identruy has been building a global system based

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"It's a great win for Identrus. because the integration effort was always forced on banks said Pete Lindstrom, an analyst at Hurwitz Group Inc. in Framingham, Mass, "Identrus wants to make access to their service as objenitous as possible. This

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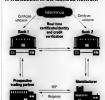
Products such as Windows 2000 already support both PKI and mechanisms for secure e-commerce, said Bill Hartnett, global director of financial services at Microsoft,

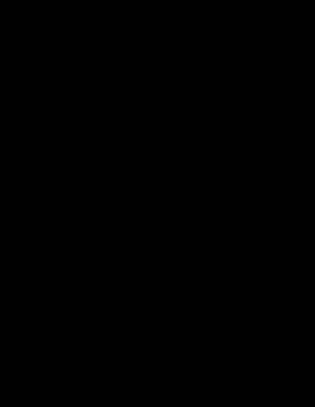
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Microsoft, Unisys and Bultimore Technologies plan to design, develop and sell a Windows 2000-based technology suite that combines Bultimore's Univers PKI technology with Unises' applications, saysproject management and con-

sulting services. The suite will include Identrus-compliant smart card man seement technology a digital denature messaging system validation services, Federal In formation Processing Standard 1401-1 Level 3 hardware security medules and secure transac tion logging services.

A Transaction in the Identrus Network





CA Accounting Procedures Under Scrutiny

Times article says CA skewed earnings

Executives at Computer Assoenal Inc. last week defended the company's even as the firm's stock plum meted after a negative article about the changes appeared in

Last week, CA said its financial reporting methods, at-tacked in an April 29 article in The New York Times, are sound and aren't an attempt to obfuscate real earnings. Islandia, NY.-based CA prepared a press release responding to the Times' claim that, based on standard accounting procedures, CA's "sales have fallen almost two-thirds over the last six months" and that it's using a new financial reporting system, started last October, as a smoke screen to cover it. The newspaper based its conclusion on CA's April 16 preliminary fourth-quarter resu announcement, in which CA stated its revenue would be

\$732 million, a decrease from the previous year's \$1.9 billion. Although CA had reported on a pro forma/pro rata basis annual revenue of \$1.44 billion, up from last year's \$1.39 billion. the article shook up investors enough to cause the firm's stock to plummet by more than 13% on April 30. In a press conference that same day, CA President and CEO Sanjay Kumar defended the numbers and said the Times hadn't fully taken into account the use of the enting model, which books the value of a contract

incrementally on a monthly basis; previously, CA had booked the full value of such contracts upfront. Kumar said the newspaper overlooked the fact that under the new model, CA had also reported \$1.3 billion in "residual value." or backlog, which isn't consid-

Several analysts maintain

half-empty/half-full water glass Both sets of numbers that

CA uses are useful to evaluate its performance, said Chris Mortenson, an analyst at investment bank Deutsche Bane Alex. Brown Inc. in New York. While the changeover in accounting methods should make

said Richard Ptak, an analyst at Framingham, Mass,-based consultancy Hurwitz Group Inc. It's just an "accounting dispute," Ptak said.

"nothing in it to lead any analysts to believe they're cooking their books," Mortenson said. The company's cash flow has been strong, and that's the key metric to evaluating a firm's health, he said. Either way, the dispute won't affect CA's enterprise users,

It's just and accounting dispute.

RICHARD PTAK, AMALYST, HURWITZ ORDUP. ON WHY THE CA-NEW YORK TIMES DISPUTE

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A Transaction in the Identrus Network



BRIEFS

Micron Sells PC Unit To Turnamund Firm

cron Electronics Inc. last we moed a deal to sell its money losing PC business to a Los Ange-les-based company that tries to turn around struggling technology ven-fors. The self-off agreement with Bores Technology Group comes six sks after Hamps, Idaho-based Micron disclosed plans to exit the PC market and refocus its operasimed at small and medium-size namies. That decision followed a a of \$168.9 million in Micron's second fiscal quarter, which ended

Vignette Corp. Cuts 200 More Jobs

Vignette Corp., a supplier of e-1 eyees, or 10% of its workforce. nent came less than a week after the Austin, Texas-based openy reported a first-quarte operating loss, excluding special charges, of \$8.1 million, or 1 cont per re, on revenue of \$90.1 million. tte already laid off 450 work

Adobe to Shut Down For One Week in July

e-based Ariohe Sentence is said it will shut down operations repany is requiring its appresi-tely 2,000 employees in Herth erics to take that time off. Adobe said the move is expected to save

Short Takes

on, Calif.-based PEOPLE-SOFT INC. said it plans to acquire SMILLSVILLAGE INC., a Sensyvale. \$33 million. . . E-commerce host ing firm LOUDCLOUD INC., also in revals, said it's planning to lay off 122 workers, or 19% of its work ce, in on effort to achieve a

Cisco Targets Service Providers With Switch

Developed in-house, optical technology will help vendor compete with Nortel

LTHOUGH CISCO Systems Inc. is the dominant supplier of enterprise networking ment, analysts said the vendor lars in the service provider category where traditional telecommunications equipment manufacturers like Nortel Networks Corp. rule.

But Cisco maintained that an

optical switching system it anunced last week should help in its quest for a bigger share of the service provider networkine market and at the same time open a door to the storage-area network (SAN) areas. Cisco's new system is called the ONS 15540 Extended Services Platform (ESP), Company officials said it was developed in-house rather than rough acquisition, as were earlier products in the Cisco

optical line The ESP employs Dense Wavelength Division Multiplexing (DWDM), a technolotween Cisco's and Nor-

gy that increases bandwidth by shooting different data streams at different frequencies or wavelengths over the same ontical fiber. The initial system will accommodate as many as 32 individual wavelengths that

can operate at speeds from I6M bit/sec, to 2.5G bit/sec. The basic system will sell for \$67,000 and is expected to be available next month, Cisco officials said. Cisco's main competitor in this area is Bramp-

ton, Ontario-based Nortel and its Optera system. AT&T Corp. plans to use both systems for its Ultravailable Broadhand Network, an optical network for large corporate customers, said Bernie McElroy, vice president of business development solutions at AT&T But McElroy wouldn't

comment on the cost and CISCO'S DWOM OFTICAL

the brand of equipment AT&T

installs depends on the application and, often, end-user preferences. SAN Market at Stake

David Willis, an analyst at Meta Group Inc. in Stamford. Conn., said that although the new Cisco system may have some price advantage com-

pared with Nortel's Optera, Cisco still doesn't have the strong relationships with service providers, particularly large carriers, that Nortel has, But Grier Hansen, an analysi at Giga Information Group Inc.

in Cambridge, Mass., said the new system makes Cisco com petitive at the core of metro politan-area networks as well as on the edge. the new DWDM product will

help Cisco penetrate the lucrative SAN markét. Bob Zimmerman, a stor analyst at Giga, said he be

lieves it will. He predicted than Cisco's move into the storage arena will ignite com petition with San Josebased SAN switching technology leader Bro-

cade Communications Systems Inc., which owns 60% to 90% of the switch marketplace. "I think Cisco is going to dominate that discussion," Zimmerman said. But Greg Brashier, an analyst at Strategic

Research Corp., a network storage manage ment market research Calif., said DWDM in the SAN marketplace is still very much in

"Most (potential buy

ersl won't even know what (DWDM1 stands for," he said B

Exodus CEO Details Moves In Management Ranks

CFO, COO among those departing ISP

BY JAMES COPE When Exodus Communications Inc. announced last week that Chief Financial Officer Marshall Case was leaving officials failed to mention that the company's president and chief operating officer, Don Casey, was departing too.

But after inquiries from analysts, Exodus Communications Chairwoman and CEO Ellen Hamcock held a conference call

at the Santa Clara, Calif.-based Internet service provider. Hancock said Casey, who previously was president of Wang Laboratories Inc. in Billerica. Mass., and signed on with Exodus a year ago, "chose to leave the company." His departure, she said, was associated with a management realign-

ment to help Exodus "achieve a single and integrated face to the global marketplace." Casey's responsibilities have been split up among Hancock, Laurie Priddy, who is executive vice president of North American operations, and Sam Moto citrify management changes | hamad, president of sales and

national field operations. Priddy will manage the company's domestic data centers. She was COO at Web hosting services firm GlobalCenter Inc. before Exodus acquired it from Hamilton, Bermuda-based Global Crossing Ltd. in January

for \$6 billion. Mohamad, who has been at Exodus since 1997, will assume responsibility for marketing and professional services in addition to his current sales duties, Hancock said. She also noted

that Morris Taradalsky, executive vice president of engineering and technology, who previously reported to | million for the first quarter of Casey, will now report to her. Beverly Brown, Exodus' ex-

chief marketing officer, has also left the firm. Hancock said that Brown had planned to leave for some time for person

Dick Stoltz, who stepped down as COO and CFO at Exodus in January of last year. will take over the day-to-day financial duties previously performed by Casey. Hancock said. Stoltz has remained in solved with Evodus since his depurture. serving as a senior adviser for strategy

and finance. Two weeks ago, Exodus reported a net cash loss of \$138.3 2001, compared with a net cash

loss of \$60.2 million for the ecutive vice president and same period last year.



performance difference system switches as many as 32 optical hs at up to 2.56 hit/sec.

MARYFRAN IOHNSON

Security Proofs

HE ONGOING SECURITY screw-ups with Microsoft's Windows 2000 must have corporate customers steaming. Only last week, the most serious one yet turned up, this time as a flaw in an extension to the server operating system that could give a malicious intruder free rein on a company's

internal network. Enterprise users running Microsoft's Internet Information Services 5.0 software were urgently advised to install the avail-

able patch immediately This latest alarm bell rang only a week after Microsoft had to admit that 26 of its largest support customers - those paying for Gold and Premier levels of service, no less were exposed to the FunLove computer virus. How? Through Microsoft's failure to follow its own virusscanning policies, leaving potential

attackers with a conveniently open window, so

As Microsoft lumbers up its steep learning curve on security, it's clearly making that climb on the backs of your businesses. And it's happening at a time when the twin business imperatives of e-mail and e-commerce are exposing more corporate systems to hackers every day. No wonder IT security professionals are swiftly moving out of back-office support roles and into strategic positions. "The higher the stakes get, the more security is a business issue," notes David Foote, a consultant quoted in

one of our stories this week ["The New Security Pro," page 69]. But let's suppose that Microsoft and the

were really listening to customers. What would they offer you? We took a look at that question in another story this week, "Managing the Virus Threat" [page 66], and discovered that security pros need a "single-console" approach to manage the hodgepodge of cross-platform antivirus products. Imagine being able to coordinate dozens of antivirus updates from multiple suppliers, or to get new virus alerts

equipped with preventive measures

before the vendor patch is delivered. Ah, but here's the catch: All of the above capahilities would require far too much cooperation and customer focus. As one security product manager candidly acknowledged in our story, any vendors that provide such a singleconsole approach are "basically admitting their full complement of products isn't a good

approach." As Microsoft has proved repeatedly of late, even the company that owns the underlying platform can't do security right all by itself. It needs to work in concert with other providers. and all of them need to lose that "not invented here" mind-set that puts vendor spin first and



PIMM FOX B2B: You Can

Find Success in Private Sites . . .

USINESS-TO-business e-commerce exchanges are getting a bum rap.

Business executives say they don't live up to the hype, and vendors rattle Wall Street with lackluster earnings and sales. But this isn't the complete story. Most of this anest concerns public B2B exchanges.

For real success, look at what's going on with corporate or private B2B marketplaces. Private exchanges for major corporations such as IBM and Sikorsky Helicopter have inherent advantages that public exchanges may never acquire First, owners of private exchanges regulate

supplier and customer access - and exclude competitors - making the sharing of sensitive information more likely. Second, owners can direct suppliers and customers to use the exchange through price in-

centives or by mandating changes in the way to con duct business Third, private exch. can be secured and tallored to serve specific

projects and customers, unlike public exchanges, which m so as to accommodate everyone

For example, at Sikorsky, Darryl Toni, a senior technical structures engineer who works on the osite material that goes into the Army's Comanche belicopters, manages drawings for the airframe, landing gear and propulsion system, using a secure private exchange to cut the time and cost of documentation and drawing revisions.

"We've been able to save about 20% of our time in the structures area," Toni says. Using the private exchange and technology from Santa Clara, Calif.-based Nexorise also meant eliminating the contractual requirement to produce six volumes (at 600 pages each) of paper documentation for the Army. "It used to take 12 engineers a couple of months to produce this," a task that's now elimiated, be adds

IBM, meanwhile, has saved about \$1.7 billion since 1993 by being able to divulge sensitive price and inventory information over a private exchange built for 25,000 suppliers and cu says Bill Paulk, IBM's vice president of e-marketplaces. As host of the exchange, the company elped defray the cost of connecting suppliers The payoff: On-time delivery to custo from about 50% to close to 90%, "which helped justify the cost," Paulk says.

Public exchanges such as Cordiem, which s the aviation industry, and the automobile



Divide and Conquer Helps in Move to IP Telephony

Merging voice and data on a single network can be surprisingly painless, if you plan properly and divide the work into doable projects

THE ECONOMY IS SLOWING: the board of directors is hitting you over the head to cut costs; yet they want employees to be more productive than ever.

How do you cope? The answer may be through merging your voice and data net works into one, single IP based network Moving in BP telephony, in which voice calls fatzed over the same corporate network as data, can reduce your investment in network in intersecture and reduce cross for support and administration. A single converged or work also makes it easeer and more cost effect two to deploy new applications that increase productivity or reduce customer services.

The numbers show that magazing to IP exciptions ye possible and prefitable right now. According to a survey by Stanford, Comised Need Group Inc., 20% of emergences have already began to more to integrated worse and data networks, and 42% plan to begin such a magazinon within the next two years. Two thousand George Soytems Inc. customers have already implemented such merged method works, ranging in safe from several handred phones to \$25000 phones. Given's shipmented of the phone to \$25000 phones. Given's shipmented in Plyphones were from several mixed in the phone to \$25000 phones. Given's shipmented in Plyphones to George user our several mixed with the phone to the plan of the phone to the form gast over \$20000 in the

first quarter of last year to 80,000 in the fourth

quarter.

Migrating from the traditional world of separate data and voice networks to a converged voice and data network can be tricky. One of



"We literally did things in

ABOUT TWO WEEKS. THE MIGRA

TION IS NO WORSE THAN IT IS IF

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MAL VOICE SOLUTION."

the reasons for this is that new IP telephones must share a numbering system and voice mail system with the existing phone systems. IP telephony can be confusing because it blurs the traditional lines between the networking staff and the telecom staff, and requires both groups to learn new skills

But with the proper tools and approach - which is often to divide the migration into manageable phases - the move to IP telephony can be done eas-

the and effectively, according to customers who have made the journey *Ouality of votce was a very pleasant surprise." says Barry Brock, director of information technology services at Algonquin College in Ottawa, Canada Another surprise.

he says, "was the ease of installation. It went better than we expected? IP telephony - also known as voice over IP - is an offshoot of the global move to Internet Protocol

(IP) which underlies the Internet, and has also become the de facto standard for inter- and intracompany communications. As network bandwidths have increased from IOM bit sec to IOOM bit sec. and to Gagabit Ethernet on the corporate backbone, many IT and network managers are looking to save on management and support costs by adding voice

traffic to the data network infrastructure already in place

Many customers report significant savings, and not only from combining their your and data sunport staffs. For one thing, some fundamental characteristics of IP networks make them easier to administer for voice users compared to traditional phone systems. At Menlo College in Atherton, Calif., at previously cost between \$120 and \$180 to

make the physical wiring changes needed to sim ply move a telephone user to a new location. something which hap nened around 150 times per semester, says direc tor of information tech nology Patrick Olson "Now, we just basically nick up the telephone and go," he says, because the campus's IP tele

phones can retrieve their configuration information from the network wherever they are plugged in Another benefit, which is especially attractive

ROCK REGAN

CONNECTION DEPARTMENT OF

INFORMATION TECHNISLOGY

during downturns, is that IP telephony makes greater use of an existing corporate asset, meaning that both the sunk costs of the current network and the costs of future upgrades will improve both data and voice delivery.

Finally, there is the harder to quantify, but very real benefit, of using a combined voice and data net work to deliver new information and services to customers that weren't possible before. These include existing technologies such as unified messaging, which is the ability to access and immediately respond to voice, fax and e-mail messages from any phone or PC within the enterprise Brock fore sees a day when the voice and data network will allow a member of the college's business staff to talk a student through a Web based class registration process, which will improve service to students and cut the school's administrative costs.

Customers are finding that adding voice traffic places relatively small demands on today's robust data networks. They are also finding that features such as 10/100 Ethernet switches embedded within



WILL ASSURE GOOD VOICE QUALITY.

DIRECTOR OF INFORMATION TECHNOLOGY

IP phones and advanced quality of service features in data center switches can guarantee superior souce quality by ensuring wore, packets receive the highest priority for network handwidth Linking, IP IP enabled telephones to existing voice mail systems, a maper concern for some customers, can be accomplished with products such as Casco Systems line's Digital PSX Adaptor (DPA).

Migration Fears

But some customers are still hesitant because of the costs of IP telephony equipment and converged network management. They also fear their networks will be overwhelmed by the combination of voice and data traffic, resulting, in either piore qualty counding phone calls or show data delivery.

say susuanage pendec can set assess can a delivery. Tolowerus the Seate of Connections that is 350 uses metallation and its Department of Information Technology, CEA, Seck (Eggin, consumes the IP objections) perceived cost desirchant in small help and the perceived cost desirchant in small help and yeapered cline arrows. IP telephony also allows voice traffic to pegiphose on the data nervood, which is already in place and is an acceptal cost of doing business. "The [nervood] is painty to be continuously appraid over time already or be the continuously appraid over time already or be the continuously appraid over time already or be the continuously appraid over time already or shall move distant traffic, says Books with each appraid shalling agaptive whom on he can't over defer wice.

The migration can get a bit difficult when the new, IP based system must eo exist with exist

ing voice mail systems or PBXs, says Cisco's manag or of technical marketing, Bill King For that reason, he says, if an installation is relatively small — say, several hundred users — "sometimes it just makes

sense to replace everything all at once." But "when you've got 20,000 users, you don't pull everything out overright," says King, "We learned to take a gradual approach" in Cacor's own magration to IP telephony, he says, and has since been migrating logical groups of users to converged networks, inter-connecting the new system with the older PRX, and then over time adding more users to the converged.



network while removing them from the PBX

Telecom managers, or network administrators, also have to design a dialing plan so "calls get rost ed to the right systems without confusion;" he says. "You have to pay attention, as you" add and delet users, to be sare you're not getting messed up by inadvertently assigning the same extension numbers to both the old and new systems.

The quality of voice has simply not been an issue "the deal the probability of the probability of the call of the probability of the call," says flock. That may come as a surprise to amone who has ever heard the pauses, dropouts and delays caused by the lattercies as a long distance call traverses the public.

ifficult when the latencies as a long distance call traverses the public Internet. But on a more tightly controlled corporate network, there's

rate network, there's usually capacity to spare for voice traffic and it's easier than on the Web to give voice traffic the priority it needs.

Consider, for example, a 400-port switch linked

to a Gigabit Ethernet network. Since calls are car ried over the network as 64K bit see, voice samples combaned with IGK bit see, of header information, says King, even if all 400 phones connected to the switch were in use a once they would take up lessthan 9% of the bandwidth available on the link.

PATRICK OF SON

MENTO COLLEGE

"There's a misperception that voice has a big impact on the network," he says. "It really doesn't on

the LAN, or on metropolitan, high-speed networks." In addition, the built in switches in Cisco IP tele phones automatically "mark the packets they ere ate" as hash priority packets, says King, making sure the packets which make up the human voice in a call arrive more closely to each other than the mark ets which make up, say a Web page

Customer Service Over IP

Algonquin College didn't start out looking to move to IP telephony. All it needed, says Brook, was a way to provide voice and data service to a new residence hall it was building at its main campus. Prior to the start of the project in October 1999, that cam nus was served by a Nortel switch to which no more

ports could be added, says Brock "It either had to be uperaded, a new switch had to be put in or we had to find some other solution All we wanted was for it to be on time, cost effective and to work in could be voice over IP, it could be a voice switch and data swatches or any

The college received five hads for the work four of which were traditional combinations of telephone and data swatches with the fifth based on Cisco's Architecture for Voice Video and Integrated Data (AVVID), says Brock. He retared the Nortel switch and replaced its core Cisco

5500 switches with Cisco

combination thereof

6509 switches and upgraded the switches in the buildings to be served by IP telephony from Cisco 2924s to 3524s - in both cases for the quality of service capabilities in the high end switches and to provide in line power to the phones. The school's core Gigabit Ethernet backbone is linked to the local switches by 100M bit/sec. Ethernet,

By August of 2000, the college was able to provide

combined voice and data services to the new rest dence hall and to two academic buildings as well as all 80 users at a remote campus, for a total of 600 users. That number is expected to rise to 1,000 by this fall, and 1,400 by next spring, says Brock, with the entire 2,500 phones on the school's campuses being IP enabled within three to five years

Like other customers, and Cisco itself. Brook found that moving all his users to IP telephony at once would be cost prohibitive. While he declines to give costs for his IP telephony rollout, he does say that "if you're not overly rich," the best times to con sider migrating to IP telephony are when building a new facility or when doing a significant ungrade to the corporate data network, when voice capabilities can be added at relatively

ANOTHER ATTRACTIVE little expense and can paye the way for a future MIGRATION SCENARIO decommissioning of the IS IF SOMEONE IS LOOKING AT work SIGNIFICANTLY

existing telephone net Another attractive migration scenario, he says, is "if someone is

looking at significantly improving client serv ice." For Algonquin College, that meant make ing it easier for its clients (the students) to do everything from register ing for courses to check ing to see if a scholarship check had arrived. *Right now," says Brock, "all a client services represen-

phone call and look at a student's record online There's no Web follow up, no collaboration, no c mail. [online] chat or anything like that."

The real benefits will come. Brock hopes, within two years with the advent of integrated messaging for the client representatives. Right now, different groups of employees answer student questions that come in through phone calls, e-mail, paper mail or fax. With IP telephony, any employee will be able to



"WHEN YOU'VE GOT 20,000 USERS, YOU

MANAGER OF TECHNICAL MARKETING

DON'T PULL EVERYTHING OUT

OVERNIGHT."

answer any question a student asles of them, regard less of how the student contacts the service repre

Under this scenario, if a student can't find what he needs on the school's Web site, for example, "all he has to do is push a button and send his phone number to the [customer service] agent" who can automatically call the student, says Brock "The

Web page he's locking at its visible to the client service representative; using mouse chicks, the's able to point him to various parts of the Web site." Over time, Brock sees these service improve ments as being more important that naw cost.

savings over a traditional phone system, which he even sees as "a wash"

One reason IP telephony won't be a big cost saver in the short run is training time for his IT staff

in the short run is training time for his IT staff which has stiff was experienced in Cisco equipment, I've us still a very steep learning curve for my catiff just understanding how the technology worked, understanding how the technology gramming required to set up the IT dephotors for gramming required to set up the IT dephotors for service. The same will be true for the client service representative, he says, who are only now moving away from Tycen secret terminal emulation applications to more integreted applications.

"In the short term, we will probably get improved service as opposed to cost savings." he says True to his own advice, he plans to move other users to II telephony as upgrades to the existing data network made it feasible, moving toward his long term goal of truly unified messaging to improve the college's customer support. "That's where we're going to reapth be benefit, he says.

Real Reason for Migration

Regan is the first to admit his magnation to IP telephony wasn't typical. He converted the 350 users in the state of Connecticut's Department of information Techniology in a very short time after a flood knocked our everything in the basement of a state data center. "We literally did things in about two weeks," says Regan. "The migration is no worse than it is if you were [upgrading] a normal vicie solution." Regan also had to relocate his IT staff to a new data center and get their phone service up and running very quackly.

But the march to IP telephony wasn't entirely forced Regan had already merged the IT groups, which supported voice

and dara networks, "so we were very interested in looking at converged solutions." He was hop ing a combined wice and dara network would be less expensive to manage

than separate voice and data networks for the state's 50,000 users, and that if anyone within the state government were to try it first, "it should be us. We wanted to be our own guinea nigs, we want

Rus Kruc

ed to understand the technology first."
Dealing with a relatively small number of users.
Regus had the lawary of doing a clean outner, a singilarity of the relatively small installations is often the easier procedure. When folliss showed up in their new office, they had a new IP deephone and new number, he say may be a first the relative to the relative of the relative to the relative of the relative to the relative of the relative to the rel

mail systems. Sach a "flash cut makes sense for sizes with fewer than about 300 to 500 users," says King. "If they already have a Cisco network in place, a lot of the installation work can take place in advance since the phones, CallManager system and gateways for inhound and outboard calls can be installed and tested without affecting the PBX equipment already in slace."

The move to IP telephony was not only faster, but also less expensive than building two new net works for voice and data, says Regan. Learning the technical skills to manage the converged network was not a major issue. "Within a month to vax weeks, I think our folls were very comfortable with



county through that learning curve," says Regan.
A larger chillenge, be says, is one confusion between the merged wore and data stalls about where the lines are drawn in a ratificant wisce world, and a traditional data world, the lines were world, and a traditional data world, the lines were wey, destine. Typically, when you had a preblem, you knew who to call," but on a converged network, are could be something the gaps on the data net working said did that caused? a problem with voice tradition over the returned.

But the blurring of the lines is a good thing, and actually part of what he hoped to see from his adoption of IP telephony. We're not looking at the 'voice' guys' and the 'data guys' anymore.' says Regan. "We're looking at 'network guys."

While placed with the speed of installation and the quality of the voice service, Regain will take a case by case approach to ingesting more of the state's 50000 workers to IP relephony. We haven't determined were going to go only voice over IP going forward, he says. The choice of telephone technology will depend on each agency's needs, the capacity of its consting data network to handle voice and its financial strustion.

Cisco: "Shrink and Grow"

Cisco itself has learned the benefits of a gradual move to IP telephony since beginning its internal ingration in 1988 Today, more than 60% of the more than 20,000 users at its San Jose, Calif. campus are using an IP telephony based system, with the rest expected to follow by the end of the year.

IT staff must examine the entire network infrastructure to ensure it can handle the additional load of voice traffic, and to develop an end-to-end quality of service plan for the entire network in the early stages of the reldsor, for example, many Geso users, that access to only 800 bits eve entwork shale, earlier than the 8000 bits even two whether note on handle queed sensitive outer thin much more onbuild expert sensitive outer thin much more onbuild expert sensitive which more onworkers in the Clase LAN did not support who the sensitive that the sourced quality of service features, which soone voice packets top priority on the network black users to be a sensitive to the sensitive that the sensitive trans of lead and which are networks as needed, to the sensitive that the sensitive that the sensitive trans of lead and which are networks as needed.

Uninterrupted Service

contact appears server Another resont to magnet one group of users at a time is the need to maintain uninterrupted to a time is the need to maintain uninterrupted to the need of the need of the need of the need of which in view and service dating the cattories, sold and new systems or core. Maint both the sold and new systems or core. Maint both of already own, and want to keep, existing wice mad systems from vendors such as Luceri Technologies, in: V Oxel Messaging Division rather than be forced to replace their wice mail at the same time they wereaft to Pitelshoon was Khili.

Groots Digital PW. Adapter (DNA) opposally use between an Octa when mel system and Checyt. CallManager, comulating the digital phone protected. the Cred system expects to see Dibb can also be configured so that users accessing either a PIN or a CROON PT-delphone CallManager system can access the same Octed e mail system. This can allow nex was managers to becep PINS in operation for part of an enterprise while the network infrastructure is perputed for others to begin using it Pedephony.

prepared to teners to regarding th recipions;

That is exactly the approach Cisco is taking, which King calls "shrink and gove." This means installing an IP (dephony system for a department, or building, or a particular local exchange number, that makes up a "community of interest" or logical group which can be magneted all of once.

The new system is linked to the existing PEX. usually with primary rate interface (PEI) trunk lines to provide a common dial plan between the new and old systems, he says. In the case of an older Lucent Technologies PEX to existing with a newer Cisco CallManager system. for example, Cisco CallManager can be configured so that it automatically routes calls on the older system to the PBX over the trunk line. Systems can even be configured to that all ourside calls, for example, "could be routed across the old system and out the old trunk line."

Over time, network administrators can grow the new system by adding users, while strinking the older system by moving users off, he says. The end game is to move all the users' to the newer IP telephony system, he says, but no a controlled with the ensures uninterrupted service and good voice

quality: Such pexcelal cocustence, of course, requires a properly designed "dualing plan" or numbering appropriate such that sources no maintere are objective. That sources no numbers are duplicated service the systems. Castemers often want to preserve as much of their current dealing plan a possible spile spil

Vacation Upgrade

With 500 telephones in use, Menlo College was small enough to consider a "flash cut" where all users were moved to I Petephoney all at once. And as a college, it had another advantage: Summer break, when the campus was quiet enough to combine a network upgrade with the move to IP etelphoney.

letien the suggrade, the collegey was served by a shared 100th frace t. Ann four of the capital bandfulles, blacked 100th frace t. Ann four of the capital bandfulles, blacked by after ring, but made to kicked up-access to the on engage LAV and had the day connections to the Internet. For letiphony would up to encounter the need for add that time per son to execute telephone wring changes on came you, and allow han to use I'll needed to already have to manage the victe network as well family, the new spiritudiness used as teleconformation and the three perfections such as teleconformation and which have dependent on the contract of the perfect of the contract of

The \$1.95 million project, which was completed between late May and late August, included upgrading the campus network to an intermediate distribution frame Gigabit Ethernet network running over four fiber rings throughout the campus, limited to a Cisco Catalyst 6500 switch at the data center and Cisco Catalyst 6500, 4500 or 3500 switches in each building. Olson expects to recover his investment within five years through reduced support costs and the ability to sell telephone services for which they would have otherwise pud Parific Bell.

Ohen says he found the construction work need of usprace the physical networks a generic rhal lengs than anything related to the network upgrade the return of the Pietelpown system. Because of the amount of capacity now available on the campus network, once quality hashin been a problem — and his main advice to other customers is that running "a popter, and his main advice to other customers is that running a popter. The reduction of the product data network will source good voice quality. "For hundred telephones on top of a Gigabat net work is nothing."

Lessons Learned

The experiences of Cisco and its customers show that the migration to IP telephony is possible and cost effective. That is assuming customers make the necessary supgrades to their existing networks conduct the migration in phases to allow for migration from (or co-existence with) legacy voice mail and other systems and allow time for training all the necessary staff members.

Once this is done, the rewards are high quality voice calls, reduced support and lower management costs over time; and the ability to roll our advanced applications such as unified messaging and video conferencing, which can vastly improve employee recoductivity.





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NEWSOPINION

industry's Covisint are stymied because cor tnrs woo't reveal proprietary information about procurement methods. Nor can exchange members be uniform in mundane-but-expensive areas such as invoicing, inventory management and documentation, forgoing even those cost savings.

AMR Research, a Boston-based researcher of e-business strategies and technologies, estimates that 20% of the cost of goods sold, or about \$450 billion, can be taken out of the global supply chain by using both public and private B2B exchang

Although they grab headlines, industry-based exchanges will never belp the bottom line, because they can't target specific customers, impose business changes on a network of suppliers or be repositories of critical company data. But companies that create and use private ex-

changes can drive real business efficiencies; that's what B2B e-commerce is about.

LENNY LIEBMANN

... And It's All About How You Relate to Others

O ROAD MARKET labels can be useful in identifying emerging trends. Dut they can be misleading when it's time for your company's particular implementation. Business-to-business e-commerce, or B2B, is a prime example. It's a term that originally came about to distinguish business-to-busioess activity on the Web from consumer-focused initiatives, nr B2C.

But any moderately perceptive observer will notice tremendous variation in the objectives and therefore the technical architectures - underlying corporate B2B efforts. That's why I've come up with a taxonomy that's proved quite useful in planning and evaluating those efforts.

Basically, I divide B2B into three categories I call AFL: acquaintances, friends and lovers. Acquaintances are other businesses that your

company deals with no an ad boc basis. They peruse your offerings, make buyine decisions based on price and value and execute transactions. These buyers may differ from consumers in that they use purchase orders and set more stringent sale conditions, but in many ways, acquaintance-class

B2B isn't actually that dif-

ferent from B2C Friends enter into more stable relationships. They may execute repeat/refill orders with some consistency. They may ocgotiate special volume pricing. In fact, one com mnn sign of "friendship" is the existence of a formal contract covering terms, support and the like. Lovers are your company's most strategic part-ners: key suppliers, major customers or prime distributors. Relationships with lovers are long term and offer sufficient perceived value to be worth

considerable investments of time and mon Why are these distinctions important? For one thing, they have a significant impact on technical implementations. It often makes sense for lovers to work out tight integration between each other's ERP systems; not so for acquaintances Friends may fall somewhere in between, gaining

access to a secure extranet site. Acquaintances may use the public Internet, while friends warrant a virtual private network. Lovers may go so far as to implement a private IP link.

These distinctions also give technologists and business managers a common language with which to discuss BZB initiatives and requirements. Are we trying to gain market share

ong acquaintances? Are we trying to turn then into friends? Are we trying to cut cost and time out of our interactions with lovers? Simply saying, "Let's do some B2B!" may not be sufficient to describe such objectives. This taxonomy's additional granularity provides much better insight

into a company's real B2B goals

A clearer understanding of B2B classes shou also help vendors better understand the needs of their corporate customers. When they talk about "enabling B2B relationships," do they mean ad hoc dealings with acquaintances? Or more bonded relationships? Can vendors such as online marketplace developers really accommodate all three classes of B2B commerce? Or are they usu

ally most appropriate for one particular class? Most companies will have relationships and requirements that span the entire AFL spectrum. But to keep the scope of B2B projects under con trol, maintain alignment with business objectives. and ensure the use of appropriate technology. IT organizations should develop a clearer understanding of B2B subspecies. I like AFL because the terms are immediately understood across multiple corporate cultures. You may choose to

use a different model to draw your distinctions. Whatever model you may ultimately decide upon, the key is to make sure that your technol gy implementations are relationship-appropriate After all, you dno't ask people to take blood tests just because they want to be your friends.

Resource-Hunary

FTER READING the article "Old Ireland Tries New oks" [Business, April 231. I was wondering if you could suggest resources for IT places omegnies in Ireland and for immigration issues. Raju Kalidi

Fingerhul Cos

Minnetonics, Minn. Editor's note: You'll find a link to Computerworld resources regarding H-1B visas and immirro issues, as well as links to veral Web sites offering information on employ ment in Ireland, at www. computerworld.com/

WAS GLAD to see the skills, train the person article on how comcomine in behind him panies are retaining IT folks. When I managed a systems developmuch greater coverage ment group of programafter a couple of years mers and analysts at a because more people public university, our pay knew more about more scales weren't very cometitive with industry derstood the way it Our client base was mostly stable so we had to create variety. One benefited them and the tactic I used was to rotate responsibilities once a year, so that the most

senior person supporting S

erhara Taylor

Gettina Extreme would move to another project sa second in WHEN consider-ing the eco-ocmics of excharge. The second in charge would move up to first in charge for that of-fice, etc. Before we starttreme programming

Programming Gets Exed doing this, some peotreme " Page One April ple had been on the same 9), it's important not to imore the hidden costs project or supporting the same office for many of traditional methodolo years. Their skills were gies. We used XP in a 15ecttine stale, and their month project that, at its career paths were limitpeak, involved two eightmember development ed because of the practice of keeping knowlteams. We found that edgrable people where they had the most expe programming productiv ity, overall, increased. rience. The newer folks We were able to assimiwere setting the new late new technologies projects, and our experi and integrate new develenced people felt a bit opers more quickly, minimize the impact of emtrapped. Using the rotation method, everyone ployee departures, better was forced to learn new

deal with requirements. changes and improve predictability. In the and keep his documentashort term, two programmers don't code tion up to snuff. We had twice as fast as one, but our experience shows that in the longer term, the increased levels of projects, and the staff recorrectness and fitness ally liked it once they unfor purpose that come from using XP result in worked and how much it less costly rework, faster time to market and lower overall cost to market. At the scale of the whole

project, two program-mers who follow XP dis

cipline and program as a pair are more productive than two who follow a traditional documentcentric methodology

RECALL A PAIR DED

gramming experi-ment in the late 1970s that achieved a 172% productivity cain and an error rate that was 0.3% of the normal rate, despite the additional programmer expense. But the concept was rejected because senior program mers would quit. This re sponse is consistent with the results described by Lee Copeland Gladwin for U.S. organizations.

Randell Jensen President/consultaro Software Engineering Inc.

Brigham City, Utah More Letters, page 32

COMPUTERWORLD welcom comments from its moders. Letters will be edited for breand clarity. They should be ad-

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IOHN GANTZ

How Will the Economy Affect IT Spending?

AVE YOU NOTICED that there's a recession going on? Actually, there is no recession - at least technically. After all, the gross

domestic product is still growing. For a recession, you must have two straight negative quarters. Last year, the U.S. economy grew more than

5%. But last week, the International Monetary Fund predicted that U.S. growth would reach only

1.2% this year. That's enough swing to create an emotional recession What does this mean for IT spending?

According to my colleagues in the Global IT Economic Outlook research program at IDC. it means a lot or a little. depending on what kind of spending you're talking

at. Their analysis is based, in part, on what hannened in the U.S. recession of 1991, the Faropean recession of 1993 and the Asian crises of 1998. It turns out that the economy is not the only ader to IT spending. Major upgrade cycles (such as Windows 95), one-time events (Y2k, currency devaluations), deregulation and technology advances (the Web. 3G phones), may ence spending. But an economic downturn

does impact IT spending. The IT sector most tethered to the economy seems to be the PC market. This year, IDC expects U.S. spending on PCs to drop by a doubledigit percentage, in part, because of double-digit growth last year. Yet the market for Intel-based low-end servers should rise by about as much as PCs fall - but for different reasons, namely

e-business rollouts. One the other hand, spending on IT services will plod along at about the same 10% to 11% that has been expected, although maintenance and support will be down and outsourcing will be up, balancing out each other.

So, here's the aggregate picture: If the U.S. my doesn't get any better than it is now, IT spending growth for this year will be around 5%, or half what it was last year.

If you want to benchmark what's happening in your company against the U.S. average, consider the following:

Spending on e-commerce-related initiatives is still rising - by 25% this year, according to IDC's recent eWorld 2001 study. This stuff is too important to be stopped by a recession. The hardware to support these initiatives, such as servers and

storage, remain in the purchasing queue. ■ Spending on long-term enterprise applications

and projects is continuing, with particular emphasis on customer relationship management, for which software sales are booming. These are often multivear projects that will only cost more

if they are delayed. Outsourcing is the high-growth area in IT services as companies try to cut fixed costs. ■ General infrastructure improvement stuff such as new PCs, new workstations, WAN equipmen and Windows 2000 will get delayed. After all, we

got a lot of fresh equipment right before Y2k. Staffing dynamics, but not job openings, will change. Expect fewer layoffs in the IT specialties than in, say, high-tech product management, but raises, signing bonuses and promotions may be curtailed or delayed. Companies will keep IT professionals rather than go through the agony of finding and hiring them when the economy turns

So, good luck. If you're new to the IT profession, this downturn will be unsettling. If not, remember that this has been a high-growth profession for 50 years, economic ups and downs norwitheranding b

BILL LABERIS

In a Funk Over E-Commerce? Read 'Bill's Law'

F YOU'RE FEELING a little confused about e-commerce these days, it's with good reason. After all, there's a growing body of evidence that the e-business advice, messages and cocksure pre-

dictions that have born barded you for years need some rethinking.

Specifically, you and everyone else with a CXO title in your organization have been told to make the building and deployment of the e-business infrastructure an absolute priority ahead of everything else in anticipation of suc porting the trillions of dollars of commerce that will

ternet in just a few years But we're nearing the midpoint of 2001, and the clicks aren't clicking like experts forecasted. On the business-to-business front, the much ballyhooed exchanges and Web-based marketplaces are desperately seeking customers. Even executives at major B2B software companies are

said to be seriously doubting the future of these exchanges

· Further fueling these doubts is the halting adoption of XML, the lingua franca of the B2B world, as users cling to decades-old electronic

data interchange (EDI). · Computerworld reported that Gartner Inc. dropped its estimates for B2B commerce by 2004 by a stunning \$1.3 trillion, not exactly short money. ■ A Nielsen study found that online consumer shopping pose-dived earlier this year. But more revealing in the study is that consumers are increasingly using the Web to gather information to

make purchases, albeit off-line ■ The click-through rates of Web advertising (the rate at which page viewers click on ads for more information) are pathetically low, averaging less than half of I% in some categories. DoubleClick, the leading firm that handles online advertising for companies and a beltwether for the bealth of online advertising in general, is swimming in red ink as losses widen

It's not an encouraging picture of the e-business world, is it? And if you're among the thousands of IT managers in the midst of deploying an e-business infrastructure designed to support the organization in the coming years, you have to be a tittle worried. You were told, "Build it, and they will come." Well, what if they don't?

First, some of the negativity expressed in these and other statistics reflect the current economic downturn, to some degree. But what we're seeing more than anything else is the manifold expression of Bill's Law (my rule), which states that nothing in the IT world happens as fast as the pundits, experts and analysts claim it will. Nothing. But eventually, it does.

Bill's Law exists because organizations are rich in legacy technology, legacy people and legacy thinking. There is perhaps no more critical lesson for you to belp the executives in your organization learn than this law

Consider the failure of exchanges to take off as predicted. Despite the very obvious productivity and efficiency advantages that XML offers, users stick stubbornly to EDI even though there are excellent EDI-to-XML translation packages on the market. They do so because it's comfortable for them, using the fact that there are too many competing XML standards as an excuse. That's true, but not within specific vertical markets,

which is how exchanges are aligned. In the B2C world, only online travel services (mostly airline tickets) and auctions (mostly eBay) have come close to living up to volume expectations. I predict that people will never reverse purchasing habits that took a lifetime to develop. Instead, B2C will flower only when m buyers are from a generation that grew up with PCs from Day I, which would be today's trenaeers. The Nielsen data suggests that you need to make your sites more usable for gathering

product information rather than for product purchasing, at least for now. If nothing else, this is a very good time to work

with executives to recalibrate e-commerce expectations and adjust IT strategies accordingly.



DATA STORAGE IS NO LONGER THE SILENT PARTNER.

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fig. 1.1: Storage screaming for your attention (metaphor)

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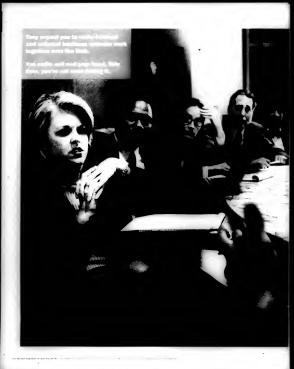
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The editors of eWeek magazine recently gave its coveted and rare Knallysts Choice Award to Microsoft BixTalk Server 2000. The publication praised BixTalk Server 2000, calling it an escellar processing among businesses.

into another via XML. BizTalk Server 2000 also maximizes the value of legacy systems by making it easier to convert XML data to and from various

structured data formats.

To learn more about how BizTaik Server 2000 can get all your business processes working in harmony over the Internet, visit microsoft.com/biztaik Software for the Agile Business.

terCard Sets Plan for IP-based Global Payent Network" [Computer-

world.com, April 231 sounds great, but not until we can secure personal data on servers accessible from the Web. Smithtown, N.Y.

Security Challenne

rsec is NOT just a subset of IP Version 6 ["IP Insecu rity." Technology, April 161. IPSec can be used with either

V4 or V6. It authenticates and (optionally) encrypts individual datagrams. Upgrading to IPV6 doesn't require all com puters to convert at once. Upgraded systems will contain

both V4 and V6 and be capa ble of communicating using either protocol. This doesn't mean that migrating to V6 is easy. The biggest inhibitors are getting V6 into desktop erating systems and change ine the source code of applica-

tions that operate across a network. This isn't a small job. Remember Y2k? Sidnie Felt The Standish Group International

thor of TCP/IP (Signature Edit

DVANCED security features will become the standard only when they are easier to implement than to ignore. There's a grow ing realization on both sides of the fence that security is good as long as business needs are met. After all, the most secure computer in the world is a laptop locked in a safe with the battery removed, the safe encased in 12 feet of concrete, and the entire thing sunk to the stom of the ocean. This computer isn't useful for much of rything, but boy, is it secure! seory T. Smith

Site-Backed Study Attacks Reservation Fees* [News, March 19] states, "The capital costs of creating a rival computer reservations system sent a nearly insur able barrier to entry for any would-be competitors." Radixx is the first to replace a legacy reservations system (Amadeus) at an airline (Air Iceland). Air Iceland Preside Ion Karl Olafeson indicated publicly that he's saving in excess of \$1 million per year be-

cause of the change. We were able to create the new syst by leveraging state-of-the-art and commodity components and tools whenever possible. stead of using expensive oprietary communication s, the airline's reacryat agents, stations and travel ents connect via inexper

man and CEO

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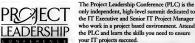


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DOT-COM DUIDS

The labor crunch is

BUSINESS

E-CLASSROOMS FOR GLOBAL EXECS

Rolling out a global enterprise resource planning system presents companies with plenty of technical challenges. But pro-

> poses a whole separate set of problems for companies

steadily easing as dorcom refugees make their way back to traditional firms. But IT managers say many of the shining stars of the e-commerce boom aren't measuring up in the corporate world. . 38

HIPAA CHECKUF

IT departments in health care organizations are preparing for next year's dehut of a new federal law that will affect electronic transactions and tighten privacy and security of medical records. But the tough part is yet to come. • 44

AND RUSINESS

As technology m from the back office to the forefront of e-business, the alignment of business and technology is becoming more crucial. A professor at the Stevens Institute of Technology has developed a methodology companies can use to assess the ma-

turity of their business/

IT alignment. • 46

vide a healthy work/life balance, hut it can also mean painfully long urs and extensive travel. Find out how two consultants approach their work. • 46



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BUSINESS

Dot-com Bust a Mixed Bag for IT Staffing

ing an easier time filling long-

Traditional companies are have turn to the corporate fold. But corporate IT managers report from dot-coms would be topempty IT staffing positions as that not all of those returning end and that we'd be working

"We figured people coming

with the latest and greatest." said Bryant Fone, MIS manager at Advanced Research Laboratories, a shampoo and personal care products manufacturer in Costa Mesa, Calif. "When we interview them, their mentali

ty is, 'I can learn as I go,' But we have rules and procedures that we have to follow

Others also cite the free wheeling nature of young technology workers who got their start in Internet companies. many of which were known for nontraditional office environments and work habits. Though willing to go the extra mile, these developers aren't accustomed to following structured methods for software de-

"There's a lot of innovation among some of the dot-commers," said Jim Hughes, CIO of Cleveland-based National City Corp., a bank with \$92 billion in assets. "But there's also a kind of backer mentality."

Hughes manages an IT staff of 1,300 and has hired a dozen or so workers from closed dotcome in recent months

"We've had to make sure that these people can deliver the kind of stability and code that they perhaps didn't before," he explained. "We're transferring large sums of money, and it has to be right."

The Right Stuff

Internet-related job cuts in April totaled 17,500 - an inase of more than 80% from March, according to a study released last month by Chicago based outplacement firm Challenger, Gray & Christmas Inc.

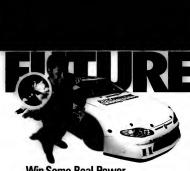
"We had a full-time recruite working for IT last year," said Ergin Uskup, CIO at United Stationers Inc., an office supplies and equipment wholesaler in Des Plaines, Ill. "We've scontinued that service because the hiring process is less

difficult? Uskup said he's also receiving an influx of resumes from systems integration firms such as Chicago-based MarchFirst Inc., that conducted development work for dot-coms. But Uskun said he looks for the right skills instead of dot-com

Indeed, dot-com and Internet integration experience doesn't ensure a good cultural or skills

mutch. Lorraine Balum, IT hiring anaper at Alistate Insuran Co. in Northbrook, Ill., agreed

"We've had more car contacting us, but they're not consarily the right fit, and aligned to what we're looking



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150 miles an hour. The hotel's on us, loo fill you can sleep after 30 lags). White also At the Las Vegas giving away a Sony" PlayStation" 2 every week, complete with the NASCAR" 2001 Motor Speedway. going they a a

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Banks Start Looking at Web Site Insurance

The recent online banking explosion has offered banks new revenue streams, but those streams can briog new risks. Insurance companies are finally beginning to look at the risks

and offer coverage. nies have begun offering packages to banks that cover risks specifically associated with their online operations, according to Richard Roby, an insurance analyst at Needham.

Mass.-based TowerGroup. About 17% of U.S. house holds now use Internet banking sites, according to Richard Bell, a banking analyst at TowerGroup. "That represents a relatively important part of some institutions' business."

he said. "Protecting that book ness process makes sense." Problems that can plague online banking sites include denial-of-service attacks and Web site defacements, said Tom Bartolomeo, senior vice president of information security at Charlotte, N.C.-based

First Union Corp. Other problems transmitting viruses and privacy violations, added Emily Q Freeman, practice leader for e-business risk solutions at New York-based insurance broker Marsh Inc., which began offering insurance products for Web sites in late 1999. "Traditional insurance policies may not really adequately cover the type of risks that are associated with Internet technology," she said. "The financial bonds banks buy are geared at traditional types of embezzlement or traditional types of ter fraud."

Each of these Internet-related banking risks has two parts: the damage done to the bank itself through the loss of business or damage to reputation, and the damage done to customers, partners, explained Gina ie, product manager at Mayfield Village, Ohio-based sive Casualty Insu Co. For instance, if a company can't access its funds and loses sess opportunity, it may

Insurance prices depend on he size of the bank and the mality of the Web site. said Juhnke. For example, addi onal liability insur

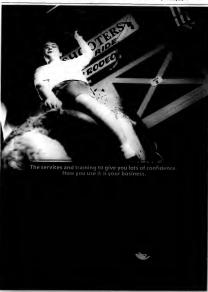
run \$5,000 to \$15,000 per year. How much insurance does a

\$250 million in assets could vice? It depends on the bank, said John Hall, a spokesman for the American Bankers Associ-

atioo in Washington. "There's a growing trend for this type of coverage," he said, but added that the usefulness varies from bank to bank

First Union might be a good candidate for one of those new | your company?"

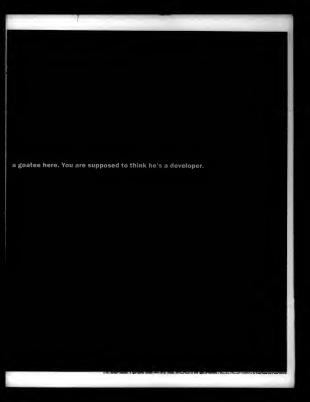
policies, Bartolomeo said. *But there's no history yet. How do you go about enforcing these contracts? If somebody's Web site is defaced, how do you prove what that's worth to



You'll often find a picture of an intense-looking model with

Developer Tools Weuel Studio 6.0 Ent. EU MET Framework SDK Servers SQL Server 2000 BizTelk Server 2000

Exchange 2000 Server
Matform
Windows 2000 Server



WORKSTYLES

The Blue Light Is Back Online

Company "

Main location is 11-Francis Africa.

Tenure: 5 - 31 11

Number of IT em Number of employee: end users): 2.4 Recent IT initia tives from a

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What's your relat with Kmart's IT departmeet? 'We don't share any we do exchange information and are gorking on those integration For example, the Kiman in store kapsks are supposed out Rivel whit application Training: "Were allocating about 80 hours a year per

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year [the atthude] was Got up money. This year we re more focused on profrablely and cost effectiveness.

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A Deal Gone Bad?

OR YEARS, I.P. Morgan was the most intensive private-sector user of IT. It was spending more than \$75,000 on IT per employee, or almost 40% of what it spent on salaries. Given that I.P. Morgan has that much computing power, I was surprised to hear that this venerable firm - the

onetime lead banker of American industrialization the firm that saved the US. Treasury from default in 1893 would cook being indepen What is ally you my an introduced the fact that much of Morson's LL was outsourced beginning in 1996 where is Classes culture values II as a homogrown competitive advantage

How well his that outsourcing a seven-Computer Sciences Corp. (CSC) -- served Morgare Let's look it the ratio of operating expenses to revenue. Operating expenses, reported as ministrative overhead. Howeverditures, our sourcing costs, consultants and depreciation

As the chart (below right) shows, there was 1984. Management became concerned and was looking to cut costs. Meanwhile, rapidly mounting 11 costs reached the imprecedented level of more than 30° of operating expenses

So Morean called in some bue-name consulrants, who told executives that their hodge podge of unintegrated systems could be best tirms that would be expected to work together. In due course, a four company alliance led by

this landmark deal was heralded with publicits comparable to what I have heard in every tailed outsourcing situation where the real mo tive was cutting costs. The real impens for the project is to help [Morgan] to retain its technolory oder, to deliver better services to end users and to free up internal resources to build new applications

What really happened will always be a matter of connecture, but the operating expense to-revenue ratio didn't budge. Instead, two years later, it shot up to unprecedented levels

Mys alculations show that even though Morgan's 11 per-capita costs were astronomical by am standard, there was no way to restore the critical tinancial ratio to its prior levels by merely outsourcing one-third of the FF budget. Confusing the matter further, the only published claim of savings by the outsourcers was a \$28 million out in 11 costs in the contract's first year, only 0.6% of operating expenses

The much-hoped-for infusion of advanced technologies from the outsourcine consortium didn't materialize, evidenced by the fact that Morgan proceeded to hand over to the Bank of New York its investment management accounting systems for Europe, which was a core com-

petency application

it paid for Morsan

Integration didn't happen, either Tor example, IT and telecommunications operations are min by the U.S. outsourcers, but not in Japan, where LP Morean has partnered with IRM I don't know how Morgan's I'l operations will fare after merging with Chase. My tracking of Chase's performance shows that it has been able to achieve reductions in the operatingexpense-to-revenue ratio, which is likely the direction it will take to justify some of the price

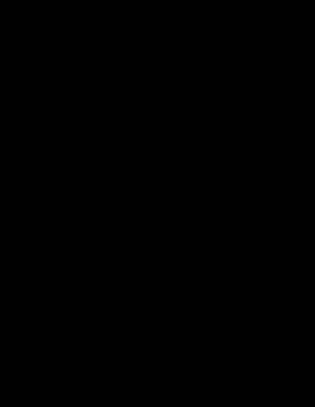
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Strassmann (paul a strassmann.com) has always tol lineed the principle of outsourcine riske innovations and keeping tight control over ongoing operations.

The J.P. Morgan Story

LP. Margan's operating expenses as a percentage of revenue soured in the early 1990s, then rose again in 1999, three years after the company outsourced its IT operations.





BUSINESSOPINION

WORKSTYLES

The Blue Light Is Back Online

no IT-specific bonuses, but we ice president of engineering party: BlueLight.com LLC. the Web site for Kmart Corp. though majority-owned Troy, Mich-based Kmart el joht.com is a suns in location: San Francisco e the wax museum on man's Wharl, "You can will the seglood from Grotto's

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To October, it was on holdey sesson. And in Alty and products and ged the look and leef. We d the whole Blue Light cal area, where we have

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e: We're filing in a formal arne process, and we

get some soot bonuses, and eryone gets stock aptions Press code: "It's pretty casual your typical San Francisco dot com environment, with a lot of day: Standard hours are

Sam to Som. We have fextime and on some projects, we and in overtime it was possion for AR hours for the October launch and in March, there was

a 24-hour stretch "It's still pretty grueing We used to say, 'Retail is detail,' and e-tail is even more detail. Must people carry beepers? Cell es? "Yes, Every ers afen. We can ac-

ness nur e-mail via hat It's Like free refresh sodas, a lot of chocolate. Don tos, Chex Mix. And it's Califor nia, so there's an emphasis on

> Little perior: "We have nego d parking rates with some of the garages in the area, and that makes life much easier in San Francisco, especially in Fisher man's Wharf. We get cell phone ounts and 10% employee unts on the Web site and in any Kroeri store, and we just

added a bundy service There are lots of tous around, like a motor-powe ture Volksway on, The human resources I departm provient trode boog needs ture that it remains a good envi nment to work, It's a very hip

our balcony on a sunny after noon to celebrate our retaunch." The last word: "For us, the com culture an'l dead. We are a much bigger company than when we started, and of urse, budgets have tightone "We are being a lot smorter

about spanding money. Last year, [the attitude] was. 'Get up and running and spend the - Leade Jaye Golf

PAUL A. STRASSMANN

A Deal Gone Bad?

OR YEARS, J.P. Morgan was the most intensive private-sector user of IT. It was spending more than \$75,000 on IT per employee, or almost 40% of what it spent on salaries. Given that I.P. Morgan has that much computing power, I was surprised to hear that this venerable firm - the

onetime lead banker of American industrialization, the firm that saved the U.S. Treasury from default in 1895 - would cease being indepen dent and would merge with Chase Manhattan. What really got my attention was the fact that much of Morgan's IT was outsourced beginning in 1996, whereas Chase's culture values IT as a homegrown competitive advantage.

How well has that outsourcing - a sevenyear, \$2.1 hillion deal to a consortium led by Computer Sciences Corp. (CSC) - served Morgan? Let's look at the ratio of operating expenses to revenue. Operating expenses, reported as "noninterest costs," include such costs as administrative overhead. IT expenditures, outsourcing costs, consultants and depreciation.

As the chart (below right) shows, there was an alarming growth in the ratio from 1990 to 1994. Management became concerned and was looking to cut costs. Meanwhile, rapidly mounting IT costs reached the unprecedented level of more than 30% of operating expenses.

So Morean called in some hig-name con tants, who told executives that their hodgepodge of unintegrated systems could be best tamed by outsourcing IT to a consortium of firms that would be expected to work togethe In due course, a four-company alliance led by CSC landed the job

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ann (paul@strassreaur.com) has always followed the principle of outsourcing risky innovations and keeping tight control over ongoing operations.





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Getting A Grip On HIPAA

IN IT STAP at Lonn Links University
Medical Center understands the serious
consequences of reading patients' medical
records without authorization and otherwise violating patients' privacy. It an articlytion of the medical privacy regulations that will be
enforced by the Health information Evstability and
understrict new privacy roles, says Ashi Sagian, the
center's information security administrators. Some
Trailfers at the Lonn Links Call Chessel Doppital

IT staffers at the Loma Linda, Calif.-based hospital have been fired for bypassing audit trails or looking up their friends' and families' records, he says. "We have to teach our IT staff to keep their curios-

ity in check, Sajain says. In the face of an October 2002 compliance deadline for RIPAMs first phase — standardizing data for must for electronic transactions — IT leaders at the health care organizations have beets managing many changes in their departments. They have implemented new policies, like Lowns Linda's strict privacy rules, and learned early lessons about best practices, such as when to involve IT personnel on HIPAA projects and how to cont-effectively implement

HIPAA compliance projects.
Industry officials say that so far HIPAA projects haven't been a large burden on IT departments, and their efforts are puring off with the beginnings of a privacy-focused cultural change within their compassion. Officials are also confident that IT and the rest of their organizations will be ready when next year's desiline arrives for implementing gatandars and formats for electronic transactions. But their toughest challenge—giving patients access to their records.

Anewlaw governing the privacy, security and electronic transmission of

health care data is rippling through the industry, and IT is playing a key role in

the changes. By Amy Helen Johnson

— is yet to come, according to industry analysts. After health care organizations finish their Phase I work, they face an April 2003 deadline for implementing privacy and security provisions, although Health and Human Services Secretary Tommy Thompson says the rules will be modified hefore the deadline. Provisions governing security have yet to

he finalized.

Matt Duncan, a research director for health care at
Gartner Inc. in Stamford, Conn., says organizations
that have yet to conduct Phase 1 risk assessments and
hold employee education and awareness sessions

risk missing next year's deadline. For the most part, he says, the health care industry needs to put more effort into its compliance projects. A Garner survey of 25 health care organizations that was conducted ne federate yeared that 65% hearth general HIVFA of outcomes of the compliance projects of the 65% hearth expansion in place and 50% have began at the compliance of the compliance

when the second second

Oukland, Calif.

As for the data formats, Livsey says that two years is enough time to do the work and that he's consfortable with the progress his department has made.

"We're right where we need to be," he says. The hospital has been examining the regulations for a year,

analyzing what it needs to do.

Right now, Liviey says, staffing isn't a big burden.

But next year, he'll have to commit funds for the necessary personnel and technology to bring the hospital into compliance. "We'll hit the ground running

hard in 2002. he says. Livsey says he hasn't completed his cost estimates for HIPAA compliance, but he expects them to be less than \$10 million. Duncan says that's in line with data from Gartner's survey, in which only 27% of respondents had estimated their compliance costs, with an average or more than \$75 million. But, be

BUSINESSHEALTH CARE



says, that number is far from firm and the averag cost could prove to be more than double that amount. Larger organizations will face higher costs because

they have more work to do. For instance, Oakland based Kaiser Permanence Health Plan Inc., a 101,400employee nonprofit health maintenance org with 8.2 million members, owns 35 hospitals and medical centers and 423 medical offices across the cou try that it must bring into compliance with HIPAA.

Mary Henderson, national director of Kaiser's HIPAA program, has been directing a 50-person, fulltime HIPAA team since March last year.

Henderson says most of Kaiser's 4,000 IT personnel aren't involved in HIPAA-related work because the new law doesn't yet affect them. Her strategy is to engage site-based IT personnel in compliance efforts when their participation is needed, such as when the systems they work on must be modified. So far, local IT personnel with responsibility for claims, membership and billing systems have gotten involved in Kaiser's first-phase compliance efforts.

At Group Health Cooperative, an HMO in Seattle, planned upgrades to legacy systems play a large part in determining the HIPAA implementation schedule says Gazy R. Gray, Group Health's HIPAA project director. One strategy he's found successful for lowering costs, he says, is to piggyback the changes for HIPAA compliance onto an existing project. Group Health's IT organization bundled Phase I requirements onto an upgrade of the HMO's registration system. A second project involving medical records will expand to include work that will meet HIPAA's privacy and security rules, Gray adds.

Although HIPAA has a strong technology cor

nent, he says, IT organizations can't rely on technol-ogy as the only solution. "HIPAA is about developin

a culture in your organization," says Gray. And IT leaders are helping develop that culture through means ranging from holding seminars to rearranging Gray says changing Group Health's culture starts with education. The HMO has a companywide HIPAA sight committee, of which he is a member. The

first step was to teach departmental leaders about HIPAA's rules and ramifications, he says. Now the effort is moving down to departmental personnel through lunchtime brown-bag presentations. "We says. "The audience is never too

small and never too large."

Abbis Kafi, chief technology offi-cer at Dallas-based Claimsnet.com Inc., a claims-processing clearing-house, says his department has ma

bouse, says any organisation into some some some strong that everyone is aware of HIPAA. He's mandated that everyone use a screen saver with a 15-minute timeout so that any poten-tially private information isn't left on display when people are away from their desks. Not every emplo-ce has access to confidential information, but he's not taking any chances, Kafi says. He's even gone so

6. wet the U.S. C

far as to reposition employees' desktop computers so visitors can't see the screens Although such changes have placed an extra burden on Kafi's staff — someone had to go around to every workstation and install the screen-saver utility. or example — it has belond make his colleagues reA HIPAA Primer

alize that everyone at the company is responsible for compliance with HIPAA. "We're actually helping to

improve company communication," he says.

Although IT leaders are putting time and resources into HIPAA today, Gartner's Duncan says th largest headache will come in the future, when health care organizations implement the patients rights portion under the privacy phase. This section gives patients the right to see their medical records

and correct any mistakes in them. "It's oot just a technology challenge," he says. "It's a process challenge." IT leaders must not only figure out a secure way to allow access for individuals who aren't employees or regular users of their computer systems, but they must also implement a proc

MORE ON HIPAA ess that notes errors and then reviews and corrects them. Ultimately, says Duncan, HIPAA

will be good for the health care indu try. The law marks an opportunity to transform an organization's business companies money and offer new opportunities for delivering health care.

IT leaders say they see the benefit of that trans mation. Loma Linda's Singian says the industry needs the efficiency and cost savings brought about by HIPAA. "Our modus has been to save patients, peri-od," he says. "But if we continue doing that without actually helping our business side, someday we will

Johnson is a Computerworld contributing writer

have problems."

s ausiness and technology have become increasingly intertwined, the strategic alignment of the two has emerged as a major corporate issue.

Not that this is a new subject. In fact, the strategic relationship between business and information technology has been chronicled as far back as the 1970s, when Harvard Business School Prof. Richard L. Nolan expounded his "stages theory" of the business/TT

relationship.
But the emergence of IT from the back room to the forefront of e-business brings the alignment issue under the spotlight like never before. And as the economy softens, the potential efficiencies and competitive advantages afforded by technology become all the

Now, Jerry Luftman, executive director and distinguished service professor

tor and distinguished service professor for the graduate ininformation systems programs at the Seevens Institute of Technology in Hoblen, N., has added a new wrinkle: a methodology that enables companies to self-assess the methodology that enables companies to



Luftman points to Bristol-Myers Stabilities. The Hew Toke has a chanced its business. The Hew Yock-based plasmaceutical giant has established an IT review board of IT and non-IT executives to lead the strategy and planning processes, identify opportunities, define priorities and track the progress of

IT projects.
Lufman says his methodology was validated through studies of 28 Fortuse 500 companies during the spring and summer of last year. Now, thanks to mer aponsorbably by The Conference Board Inc. in New York and the Society for Information Management in Chicapo, Lufman is surveying brundreds of encentries, primarily as Fortune L000 companies, with the aim of assentbling an ever-expanding repository of hench-

marking information.

"The participants need to be executives both from the business and the IT organizations," he says. "We look to have at at least six executives from

Will this he useful? Few will contradict Luftman's insights. The question is whether the assessment effort represents the best use of a CIO's time.

Measuring Alignment

An IT management professor has developed a new methodology to help companies assess the maturity of their IT/business alignments. By Peter Buxbaum

The Luftman Model Jerry Luftman's five levels of IT/business alignment:

LEVEL 5: Optimized process

Computating/value: Extended to external partners Severnament: Integrated across organization, partnership: IT and business or-edaptive Severa and prohibestore: Evalue with partners.

LEVEL 4: Improved/managed process

computer of the control of the contr

LEVEL 3: Established focused p Communications: Goodunderstanding

ntensy/value: Some cost effectiveness names: Relevant process across organization unable: Process driver: IT seen as asset

LEVEL 2: Committed process

Comprehency value: Percurans cost errorato; Bevernance: Tactical at functional level, occasionally responsive Partasenably: Process enable: IT energies as zonat Scape and architecture: Transaction (a.g., decision-support system

EVEL 1: Initial/ad hoc process

Comparison of Values Series to Christial measurements Benerosantes: No Served process Participatellips: Carollics II a cost of delay business Seepa and arabitochiese Traditional (e.g., accounting, a-mail Seepa and arabitochiese Traditional (e.g., accounting, a-mail) Roy Nicolosi, GIO at the Insurance Services Organization (ISO) in New York, says he plans to use Luftman's methodology to assess the ISO's four separate business lines.

"We hope to find good measurements to aid in the comparison of the business units with a bulanced scorecard." Nicolosi says. A bulanced scorecard is a methodology that's designed to track long-term strategic performance by measuring progress against discrete business goals.

Nicolosi also says Luftman's methodology may come in handy when evaluating potential acquisitions. For example, the relative alignment of a potential acquisition with the prospective parent organization can aid in deciding whether to integrate the acquired company into the umbredto organization or to leve it as a stand-

But Chack Emery, CIO at Horizon Blue Cross/Blue Shield of New Jersey in Newark, doubts whether Luftman's numeric scoring allows for effective comparison. "The problem is whether netrics can be developed that can be used across different organizations," says Emery, who's mulling whether to try Luftman's system. "The evaluations call for many qualitative judgments, so that the aspessment is related to the

alone entiry

subjectivity of the evaluator."
For Emery, the problem is finding metrics that travel well across organizational boundaries. "As long as I'm the one doing it, the measurement may be consistent," he says. "But intergroup

comparability becomes difficult."
In many respects, alignment boils
down to the effectiveness of the interpersonal relationships between business and IT managers. Effective IT
leaders, among other things, must be
privy to senior management's tactical
and strategie plans, according to Luftman. They must also be present when
corporate strategies are discussed.

"It's all a question of whether you're invited to sit at the table or out near the kitchen." says Nicolosi.

"It's not a bad methodology, as these things go." anys Bruce Biltich, ElO a Tessenderlo Kerley Inc., a Phoentibased chemical company." In fact, it's probably closer to the mark than anything I've seen before. 'Still, he advises ClOs not to put too much faith in tools alone. "Instead, learn the craft of making and maistening relationships."

Blitch sees the art of persuasion as more important than numbers in his job, "Whatever we do as ClOs needs to make sense to the business," he says. "But making sense comes down to contributing to a vision shared with your management peers." 9

Buxbaum is o freelance writer in Elizabeth, N.J. Contact him at pabOlisionl.com.







'Bad' in relation from \$140 to \$2250 condition on solect part numbers, the relation per qualifying partit marrier, described to collect and construction for purchases made in the 15 or Canada, Bad's relation forms condition and most be postmerhad by July 31, 2001.

Therefore, most be completed by June 32, 2001. Wall when published for more information with sere June 30, com/gar intergrations.2.

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EXEC ED ON FORFIGN SHORES

IT workers on foreign assignment are usually too busy with the tasks at hand to worry about their continuing education. That's why e-learning is becoming essential for them. By Kym Gilhooly

FOR IT PROFESSIONALS on assignment around the world, the pursuit of executive education for career advancement is characterized by compromise and complexity.

The task is likewise complicated for U.S.-based companies that need to deliver high-level education and training to their IT workers in offshore locations. What works in the U.S. doesn't necessarily fly in Poland. Brazil or France.

International Piper Co., which is rolling out SAP.

Its manufacturing sites worldwide, can attest to
that. The company is currently wrapping up a pilot
to flagiland to cushink a Durpone here practices
team. It will next roll out the enterprise resource
planning technology to its operation in Polandi and
Russis, says Russell Giddings, manager of business
from the US to these countries to implement RAP.

When these top I'T workers need additional SAP

When these top IT workers need additional SAP training abroad, they primarily turn to SAP AG's Web-based programs. Much bigger challenges come with educating these workers on country-specific requirements so they can customize R/3 to each implementation, according to Doug Turner, IT director at International Pages's European operations.

"Across Europe, reports that have to be generated for one country are completely different than the country next door, "says Turner." To develop faure-pean best practices, our American team of business? IT people have to get educated on different requisitions." That means localized training on finest, psyriol, tax and reporting requirements for each country in which international Paper has facilities. In addition to obecasting what it calls its business?

IT workers on high-level foreign buttness practices, international Paper increasingly requires these workers to attend executive meetings, such as the electronic summit that the company hosted in December in Europe. That summit brought together senior business and IT professionals working in the sares to educate them on the company's plans for e-commerce.

"it's critical when establishing best practices for worldwide initiatives that we oducate our business IT people on our business processes and strategy moving forward," says Turner.

TIME IS MONEY

Finding the time to complete any kind of training under an R/3 implementation schedule can be a tall order. That's the challenge for IT executives working abroad, repartless of the projects they're managing. They're typically overtaxed with the projects at hand, and continuing their education isn't usually a high priority.

"There are real challenges for multinationals trying odliver education globally," says Rachel Cheeseman, president of the information Technology Training Association in Austin, Texas. "On one hand, local programs don't usually work because it's not worth a provider's time to customize its whole programs to one person who might not speak the

language."

In addition, "there's no time to take courses because most IT executives working abroad are already working far beyond what is the local norm, and when they're not, they're often connecting with the mother

ship over the ocean to get updates," the says.

These realities are just some of the many reasons than e-learning is gaining ground, says David Von Zurmuehlen, a director as Dallas-based Southern Methodist University's School of Engineering, which helps numerous IT professionals earn master's degrees using video and Web-based media.

When IT professionals are working about they're focused on the task at hand. When they get to beeath, they're focused on the task at hand. When they get to beeath, they're more focused on integrating family time," any You Zarmusellan. Prom the called tasteploist, they to condense of them, so it can be assumed to the control of them, so it can be over-reducing to try to continue their education. The Internet has thad a positive impact, because they can be go on and purchase a short class or self-paced tunned about the harv time."

A RI FND WORKS BEST

Global companies will increasingly offer so-called blended programs (which supplement classroom training with distance learning, videoon-ferencing, videotape and other delivery methods) to meet the needs of IT professionals at home and abroad. That's the approach taken by Lockheed-Martin

Corp.'s Enterprise Information Systems (ESS) organization in Orlando, which provides IT services to the defense contractor's M5000 employees worldwide.

"We'll be leveraging as many different media as possible as we go forward," says Dwight Weaver, EIS's manager of international IT services. "We're in-

copporating Wish-based training, videoconferrocing, between Vision presentation and cleaterous training. Bethesda, Mid-based Lockhoed's fortiga training, Bethesda, Mid-based Lockhoed's fortiga training, claring-say are acceptated by U.S. export control laws. 'As a government contractor, we've very sware with every developing capabilities for white offer and with every developing capabilities for some last based with every developing capabilities for some last based with every developing capabilities for some last based compliance. Date sportection technology will allow us to compliance. Date sportection technology will allow us to see the compliance. Date sportection technology will allow us to see the compliance. Date sportection technology will allow us to see the compliance of the contraction of the compliance. Date sportection technology will allow us to the compliance of the contraction of the compliance of the contraction of the compliance of the contraction of th

to share data across boundaries." 9

Gilbook is a freelance writer in Falmouth, Maine

Electronic-Learning Revenues

de education and starting demonstrate at good convenient cording to analyst Michael Granners at Francischen, ex-based ECC Revenies in distance lastrifug are sected to rearly double this year from last year, he so







Balancing Acts

IT consultants can easily become consumed by long hours and frequent travel. Meet two consultants who chose this lifestyle for the time it affords them with their families. By Leslie lave Goff

six-figure income, takes eight weeks of vacation each year and devotes time to his local Oracle users group.

Doug Sioquist alternates intense work periods with lighter stretches, home-schools his four children and is building his dream home in the

Both IT consultants exemplify how independent consulting can empower IT professionals to strike a unique work/life balance that's difficult to achieve as a full-time employee, But even amone IT consultants, Goodhue and Sio-

quist are exceptions to the rule John Goodhue

Oracle database adm Macie Grow, Minn. Like many IT consultants, Goodbue set out on his own because he wanted more time and money. During the past three years, he has carved out an atypical consulting workstyle that gives him the best of two worlds: the freedom of an independent consultant and the comforts of an employee.

As a W2 employee at consulancy services firm Database Group Inc. in Dallas. Goodhue gets full insurance benefits and pates in a retirement an that allows him to save as such as \$24,000 annually. He

GOODHUE earns a | doesn't have to fret about paying estimated quarterly taxes or whether clients will pay his

"I work, and two weeks later, I get paid," be says, "Typically in consulting, clients often don't pay for months, if ever, but I don't have to worry about

But Goodhue has never met his "boss" at Database Group. and he's not obligated to work for the agency's clients. He se-cures his own gigs, sometimes working as a subcontractor through other agencies. On all of his assignments, he sets his own hours and gets his full hourly rate of \$125 from Database Group. His psycheck is al-

most double what he earned as a full-time employee. He uses his extra freedom and income to plan a major trip once every two months. In the past two years, Goodhue has taken his wife and two children. ages 12 and 14, to Paris, London, New York, Orlando, Las Vegas, Washington, New England, Ice-

land and Scotland, "I would never have had the time or the ney for that kind of travel if I had a regular job," he says. "It's so much easier to take time off when I'm not being paid for it," Goodhue says. It's a a statement that might seem ironic, given that the nature of

consulting is that time equals

get into the mind-set of. 'Oh, if I were working, I'd he making \$100 an hour," he says. But he refuses to look at it that way "That would drive you crazy every minute," Goodhue says. "I like my time off, and it's hard for a client to object because I'm not taking paid time off." Goodhue says he gives his clients three to four weeks' ad-

vance notice of his trips, and they have never complained. In between trips, he works sixto 14-hour days, as needed. Since Goodhue's work isn't as deadline-driven as other types of IT projects, it's easier

to set his own schedule he "In a consulting niche that's more project-oriented — like developing a new order entry system with a specific pro

plan and deadlines and definite start and end dates — it would be much harder to do what I do," he explains. Prior to consulting, Good-hue was a database administra-

tor on the order entry system at Fingerbut Cos. in Minneton-ka, Minn. He had to work a scheduled maintenance shift every weekend, from midnight Saturday to 6 a.m. Sunday. Every third week, he was on call. That left him very little

"My relationship with my kids has changed since I started consulting," he says. "Trips are a good way to enhance the family experience. There's al-ways some sort of problem that crops up when you're travag, and we work through it as a family. We're much closer than when I only had two weeks' vacation a year."

The higgest challenge to his wfound freedom, Goodhue ssys, is the possibility that he may find himself with too much time on his hands. Alough he's had only one week

since 1998, there's always the chance that he could have a dry

"I could be on a gig for months, but it might turn out to be only a week - that's the chance you take," be says, "So you have to have nerves of

Doug Sjoquist metos Inc. Xenia Ohio

Sjoquist started consulting in 1998 because he "didn't wont to end up with a compartmentalized life," he says. "I want to weave together my social, spiritual, professional and fam ily lives - both for my benefit and so I can he of service to

To that end, Sjoquist sched-ules projects in "clumps," he says. He alternates concentrat-ed work periods of several consecutive months with a less-demanding mouth of half-days. The schedule effectively

serves his clients and sets a well-rounded example for his four children, ages 8 to 13. "My children see 'work' as "My children see 'work' as well as other things about me." Sjoquist explains. He works from home three days per week and frequently opts to

program in the mornings and evenings so he can spend after-

Sjoquist is in half-time mode, the family travels, or he tackles personal projects like wiring his new home. If friends or

family need a helping a hand, he adjusts his schedule to pitch in wherever he's needed. His workstyle isn't wir its challenges, Sjoquist notes. He frequently works out of town, and last summer he was on the road for six weeks be-

tween May and September. "It was a lot more travel than I would have agreed to if I had thought through the contract," Sjoquist says. Even though his en are home-schooled. it's not always possible for his

family to join h As an employee, Sjoquist says he frequently worked overtime. "I didn't mind some

of that, but sometimes I felt like it was overboard. I wanted to get paid for all the hours I

Moreover, as a developer Spoquist says he finds it diffi cult to take full vacations with out his laptop in tow, but he manages to mix work and play on the road. For example, depending on his deadlines du ing a trip, "We may stay a few days longer in a spot, and I'll spend half of the time worki the other half playing."

Goff is a freelance writer in

of time is "requesty hade

BUSINESSOUICKSTUDY

Inventory Turns

HINK OF INVENTORY rns as a measure of bow well a

company's products are doing in e market and how well its ventory is managed. The term basically captures

the number of times per year businesses such as retailers ufacturers are able to sell off or use up their compiete inventory of raw materi-als or finished goods.

The more often a company is

ble to turn over its inventory. the better. The reason is sim-ple: Businesses like to convert rchandise and materials into cash as quickly as possible. In addition, holding on to in-

ventory costs a lot of money, both in terms of the capital tied up in unsold products and in the expenses associated with warehousing them.

So, the quicker a company is able to push its inventory out the door, the higher the return on its inventory investment and the better its cash flow.

*Anytime you have products itting in inventory it means your resources are not proing cash flow," says Andy Chatha, an analyst at ARC Advisory Group Inc., a manufacturing consultant in Dedham, Mass. "Ideally, you want zero ory" if you want to maximize cash flow, he adds.

no the Math

ory turns are calcul ed by dividing annual sales by the average value of the inventory. For example, if a company had sales of \$100,000 last year and the average retail value of its inventory over the past year was \$50,000, then the number of inventory turns equi In other words, the manufac-

turer replaced its inventory every six months, on average. But if the manufacturer were to increase its turn rates to 10, those same sales would be gen-

erated by just \$10,000 worth of

This would generate a lot are cash to invest in other aspects of the business, such as DEFINITION

Inventory turns are a measure of how quickly a company replenishes its entire stock of materials or merchandise annually. The more turnovers there are, the less time inventory sits idle, which helps improve cash flow.

the option to buy "new equipment, build a new sales organization or to give stockholders a bigger payback," says David nroe, an analyst at Plant-Wide Research Group, a North Billerica, Mass-based manu-

factoring consultant, "It's almost like having a free loan. except you never have to pay it The average number of inventory turns varies greatly by industry and by companies

within industry segments. For nstance, the ratio is particularly critical in industries that face significant pricing and competitive pressures, low margins and fast obsolescence rates. Chatha says. These include compar

the automobile, consumer electronics and computer industries plus retailers of all

types, say analysts. Companies in these sectors all have high inventory turnover rates because the cost of holding on to goods in hypercompetitive, fast-evolving areas can be unacceptably high.

Some firms, like Dell Comnuter Corp. - considered by many experts to be one of the leaders in inventory management - have turnover rates that range from 30 to 40 times

per war. Companies stand to benefit from improving inventory turns, even with relatively lowvolume or slow-moving products, because of the same cost

factors that drive com with fast-moving products. says Monme

"In fact, the only industri where it doesn't always help is in aerospace and defense, where the need to maintain inventories of parts for longer periods of time is part of the business model because of slower obsolescence rates, says Monroe.

Getting Better All the Time

A study published in December 1999 by the management firm Pittiglio Rabin Todd & McGrath in Waltham, Mass., found that U.S. companies have dramatically improved their inventory turns during the past few years.

U.S. inventory turns rose by more than 12% from 1994 through 1998 to an average of 5.4 annual turns, according to the report. During the same period, the average cash-tocycle time - the number of days between paying for raw materials and getting paid for the product - improved by 10% to 100 days, the report

Driving much of those in ventory turns was the need to address falling margins and slowing annual growth, the report said. In addition, many big U.S. companies have also inthe past several years to auto ment processes using sophisti cated supply chain manage

The continuing move away from traditional build-to-forecast manufacturing models to more flexible models such as build-to-demand, build-to-order and flow manufacturing are also changing the way companies look at inventories, save Monroe.

The increasing emphasis on a fully integrated supply chain means that inventories barely spend any time sitting unused. Twe seen some practitioners of flow manufacturing who move inventory so quickly that they utilize materials, ship

oducts and bill custo products and bill cussoum... before their suppliers even bill them," Monroe says. Companies are also beco

ing increasingly aware of the need to improve inventory management and to move to ward build-to-demand models at a time when the overall economy is slowing, says Chatha.

Many high-tech companies, including giants such as Circo Systems Inc. and Murray Hill, NL-based Lucent Technolo gies Inc., recently got stuci with excess inventories when the economy slowed more abruptly than they had anticipated, reflecting how even well-managed cast models can sometimes



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知 BROCADE JOE AUER/DRIVING THE DEAL

Be Wary of Annual Revenue Commitment

CUSTOMER RECENTLY NEGOTIATED an agreement that called for an annual revenue commitment to the supplier. It's quite common for a supplier to exchange pricing concessions for this type of guarantee from a customer. But what happens if the customer fails to do the guaranteed amount of business with the supplier? In their excitement over getting a great discount, customers often overlook this point. Before agreeing to an annual revenue commitment, you must answer these three questions:

 Do we have the ability to meet the revenue commit-

What's the likelihood that we will actually achieve the What if we fail to meet the

Ignoring these issues can result in a costly problem such as - at the minimum - having to make up the revenue shortfall to your vendor. This alone could wipe out the great

discount you got on the front end of the deal. In verifying your company's ability to meet its annual the end user of the product you're about to buy. The end user should share the responsibility for the commitment you're about to make. Review usage history with the end user so you can determine

with a high degree of certain-

Regardless of the best plans, estimates and negotiations. the world changes.

level should be. Regardless of the best plans, estimates and negotiatio

the world changes. The best protection against a changing world is the "significant business change" clause. If this clause is drafted correctly, it will prosect you if your company's revenue or profit falls. On the other hand, if business booms, you can secure discounts for purchasing more of

ty what the optimum order

the vendor's products. This clause should specifically allow you to reduce the level of your annual revenue commitment to a vendor without having to pay any adjustment fees. Here is the "downturn" portion of such a clause: door, but they want you to

If the customer is unable to fulfill its obligations for the onnuol revenue commitment due to a downturn in business. customer and vendor shall nepotiate, in good faith, appropriote and commercially reasonable changes to this contract. In ony event, the customer shall not be liable for any fees, charges

or penalties due to o change in the customer's annual revenue or profits. This clause effectively hedges the downside and

eliminates a nasty contract "gotcha."

Mail Bao

vice president at systems integrator Covansys in Char lotte, N.C., sent me this note: I found your article in Computer world about pro-

tecting your trade secrets interesting (Bo Advice, April 9]. As a consultant, it is a topic I have debated with clients and colleagues in

While I understand the need for protecting intellectual property, many clients want it both ways - you have to have the experience coming in the

leave it behind when you're done! Let's face it - you always stand the best chance of winning an engagement if you can demonstrate that you have done the same thing before. In fact, that's very often the deciding factor in owarding en-All that being said, I think

your article makes

a lot of sense. However, you should point out that most consultants want to get repeat business with existing clients as well as add new clients. and the best way to approach such sitit out with your

consultant to set appropriate restrictions that both parties can live Thank you, Ted,

for the note. I feel strongly that we should strive for

appropriate rights and obligations that both parties can live with

You're also right on when you say that clients want consultants to have related experience coming in the door but that clients should, of course, be very leery of a consultant they suspect might use another client's intellectual

property.

m roles at GE

Corp. recently named See McMi. CIO. in addition to Miling this reli

eray in a provider of and Air Lie

ent of FT at its U.S. and Copper & Gold in Hour Or where he was most reces plobal provider of indu edical passes and services, Air of Paris-based L'Air Liquide SA

Spirit Airlines has chosen David M. Anderson as its new CIO, Anderso

cturing officer in add

COMPUTERWORLD



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TECHNOLOGY

WIRELESS ALTERNATIVE

Some businesses are using fixed wireless services successfully. Analysts say there's room to
use this technology as a
cheap alternative to Digtial Subscriber Lines
and TI lines for branch
offices and small companies. 1 Se

SECURITY

When a user's system exhibits bizarre behavior, security manager Mathias Thurman suspects a Trojan borse. But when the virus proves elusive, be plays it safe — and annoys the user — by wiping the system clean. 3 56

FUTURE WATCH

MIT futurist Michael L. Dertouzos says it's time to leave the Industrial Revolution behind and complete the Computer Revolution. Making machines serve people, instead of the reverse, will transform the way we live and work, he predicts. 90

VIRUS THREAT

Virus signature updates are the bane of a security manager's existence. How do you keep all those antivirus programs updated across thousands of desktops? There's no easy way, security managers say, which leaves them scrambling and users vulnerable. • 88

Emerging Companies 6 Translatters



BUYING PCs FOR THE ENTERPRISE

NUMEROUS STUDIES HAVE SHOWN that the price of a new computer is only a small part of the total cost of ownership. Support, maintenance and other intangibles contribute far more to the sum. Those who buy desk-top computers by the tens, hundreds or thousands have taken this lesson to heart. When they go shopping, their list of desired features has very little to do with hardware.

Fixed Wireless Provides **Network Alternative**

Technology offers fast and cheap Internet access for branch office

-ANSAS CITY, MObased Air Charter Team, an air passenger char ter company for /IPs, relies on fixed wireless plogy for fast access to the Internet to help in booking flights and downloading

ne media Air Charter is one of the my small and midsize companies, or branch offices of larger companies, that analysts said are picking fixed wireless technology over slower dial-up and other faster broadband ernet access methods. Fixed wireless is usually less expensive and easier to provide than Tl. or fractional, cont they said.

our of the old Kansas City airport near the center of the city. where cable modems and Digital Subscriber Line (DSL) service aren't available, said apany President Joseph W. Tasler. Air Charter also wanted a less expensive connection than a Ti or faster connection but wanted greater speed than sek bit/sec dial-up or Integrated Service Digital Network, he said.

Air Charter Team's age regularly use high-speed Internet connections for quick searches among bundreds of charter planes and pilots for their availability as well as to access streaming video to view various jet models and interi-

A TI line, with L54K bit/sec... of bandwidth, costs about \$1,700 per month in the Kansas City area, compared with the \$299 per month that Air Charter Team pays for fixed wireless, which provides more than

600K biz/sec. The company contracts the service from Computer Training Corp. (CTC) in Independence, Mo., one of the many all fixed wireless providers in the nation. CTC offers TI-

equivalent speeds for \$1,000 per mone "I'm very impressed with their service so far, and my only hope is that CTC doesn't oversubscribe and can't give us good service." Tasler said.

CTC officials said they use a proprietary fixed wireless echnology that operates on 802.11b wireless technology ally seen in LANs with only 1,000 feet of wireless range But Air Charter Team has a small custom antenna on its roof that beams an amplified

signal about 1.5 miles away to cluding Local Multipoint Dis-the rooftop of another CTC tribution Service and Multicustomer, which serves as a peer in the network, and that a TI line, CTC offi

cists said Another CTC subscriber, Barber Fipancial Management lnc. also in Kansas City uses fixed wire. less to provide Internet access and e-mail capabilities for sensitive customer data.

said Kent Barber, president of the firm

cerns," be said. varieties of fixed wireless, in-

"We've had no security con-Analysts said there are ma

channel Multipoint Distribution Service, which operate in omer is then connected to radio spectrum licensed by the Federal Communications Commission. The biggest provid-ers of such systems are Sprint Corp. and WorldCom Inc., and

bests said CTC is offering its service in the unlicensed spectrum, as are many other providers, said Ronnie

Galang, an analyst at ce Inc. in Denver The biggest drawback of fixed wireless is its dependency on a line-of-signt connection from receivers and transmitters, which makes the signal susceptible to fog and rain, said Galang and Matt Davis, an analyst at The Yankee Group in

Galang said larger organiza tion that are considering using fixed wireless might find it acceptable as a backup to another network. He recome ed that if a company uses fixed wireless access, it should be purchased with a backup network based on another technology in case of outages or the demise of the service provider.

Tasler said his backup for fixed wireless is resorting to using phones without Internet access to make bookings, although he has never experienced a prolonged outage.

A market report by San Jose

bused Frost & Sullivan in March said fixed wireless access services in the U.S. earned about \$840 million last year and are expected to surpass \$25 billion by 2007.

Researchers Struggle With **Problems From Hiding Data**

Legal threats haunt experts on data tracking, secrecy

Scientists attending the Fourth Information Hiding Workshop

last month in Pittsburgh viewed demonstrations of how to conceal information from repressive regimes and how to build watermarks to track docnts, and they got a lesson in how to use vague threats of a lawsuit to muzzle academic

sial conference focused on exploring ways to slip extra bits of information into unexpected locations. The science of hiding information, often called steganography, is gaining attention because convright holders, especially those in the music industry, hope to

use the hidden bits of information to tag and even corral digital versions of songs, books, movies and other works of art. The tools for creating these

veloped by members of the Secure Digital Music Initiative and released in a highly controlled contest that publicly challenged others to test their

But when a group of scholars from Princeton University, Rice University and Xerox Corp.'s Palo Alto Research Center (PARC) discovered ways to circumvent those tools for embedding copyright information in sones and planned to present a detailed paper at the workshop, tensions surfaced. The Recording Industry Asso-The normally uncontroverciation of America sent a letter encouraging the researchers to

keep the information secret and noting that they could face legal action. The group withdrew the paper and issued a statement saving, "Litigation is costly, time-consuming and uncer-tain, regardless of the merits of

the other side's case." The conference was devoted to describing new and enhanced ways to hide or lock information. Another group

from Xerox PARC demonstra ed tools for hiding information in the background of text documents. One approach used small hash lines oriented in different directions to encode the information others used the size and width of the characters. Both technologies let people embed digital signatures into text documents.

Many researchers wrestled with the problem of how to ate watermarks that could be controlled by encryption keys. Such a system would work like public-key encryption (PKD) algorithms: Or one person could embed the watermark, but anyone could test its presence. This type of tool would allow companies to

embed watermarks that act as

digital signatures in electron documents. Another approach used neural networks as keys, and a third method was based zero-knowledge proofs. which allow a user to verify that he has the information without revealing it. Other techniques used pri

vate keys, so the information in the watermark could be recovered only if the key was known These techniques are more useful for hiding info in a way that can't be identifled. Some papers described sophisticated techniques that eluded detection by ensuring that the hidden information was statistically identical to the surrounding data, provid-

Englishman Toby Sharp de scribed a tool he developed with an unnamed friend who was living in a country where the police regularly scrutinized his e-mail. The tool which hid information by mod ifying the least significant bits of an image, allowed Sharp and his friend to express them selves without fear of reprisals Sharp and his friend couldn't use regular encryption to protect his privacy because the

police blocked the messages, 9 wher is a freelance writer in

White Paper

The Evolution of

Hosting Services Across the Web

COMPUTERWORLD

The Evolution of Hosting Services Across the Web

he outsourcing of Internet infra structure has gained momentum since static Web sites began flour ishing across the World Wide Web. Enterprises first warmed to the benefits of outsourcing when it came to the management and

hosting of their initial Web operations and have most recently followed with the need for managed network,

hardware and application operation services. With outsourcing adoption rates

on the rise. Aberdeen research ands cares that the hosting services market will By Dana Tardelli be worth \$70 billion and Lisa Perri, by 2005 in the U.S. Aberdeen Group

all genres have rushed to offer hosting solutions as a means to improve customer lovalty and gain healthy margins to counter the commodification of basic Internet access

Service providers of

services Consequently, the supplier marketplace has become confusing with expanding product portfolios and vague positioning. To make mot ters worse, hosting service providers have offered little product differenti ation and marketing efforts have done bathe roullustrate a unique value proposition or target market.

Meanwhile, only some providers , have truly demonstrated the technical competency to adequately sup-

port the increasingly complex de mands of today's e business enter prise. Many customers expecting the scamless delivery of Web content have been disappointed by reliability and the lack of service continuity Apprehensive enterprises, in re sponse, have been quick to remind providers that 'service' is crucial to their success. And customers now in sist suppliers develop technical and practical expertise in house, partner with best of breed suppliers; regu larly define, document and refine both processes and action, develop easy to understand metrics for cohe sive service level agreements (SLAs). and deliver exactly what their cus tomers pay for

Defining Hosting Services The hosting services market is the management of Internet operations. It is the service backbone that facili tages the delivery of massion-entical applications. The three elements

within the hosting services environ ment are defined by Aberdeen as connectivity services, operational host ing services and value add managed services (See chart, page 4)

Connectivity services - These serv ices are the transport of, and access to high speed fiber networks Access to these networks is available through specialized facilities or data centers that provide and manage net work operations. These connectivity services establish the link between communication backbones and the computing function

 Openmenal hosting services — These services are the serving and maintenance of computing opera tions for the delivery of Internet appheations Generally, operational hosting services are segmented by the degree of complexity Simple hosting is the entry level of hosting for customers with non-mission crit ical Web site needs - repically small businesses and small home offices Customers share expenses of servers and connectivity with other compa mes Websites Higher up the ladder. there is the hosting and operational management of Web. Web middle ware and transaction servers that are the essential operations of complex Web and application hosting This layer requires the availability of a transaction processing database and plays an essential role in e-commerce

Managed services - These value add services are the hottest offering in today's expanding hosting services portfolio. Offenne expertise in systems and service management, they deliver some combination of complex network infrastructure configura tion and management, content distri bution, security, storage, support and apolications management. Managed services are offered throughout the provider spectrum and clearly illus trate the integration of hosting solutions. Hosting service providers (HSPs) that understand the impact of the commoditization of connectiv my welcome the incremental revenue stream and margin These services are a significant building block of customer loyalty, account control and profitability for hosting providers over the leng term

Factors Promoting Market Growth The demand for hosting services can largely be attributed to four significant market enablers that are driving the adoption and requirements of the marketolace Outsourcing advan tages, e business proliferation, small and medium enterprise markets and ASPresival Oursourcing advantages

Classic outsourcing benefits have

been well documented but enterpris es are still warming to its advantages and are gaining a better understand ing of how it directly relates to the following list of business immatives ▶ Core competence — Outsourc ing helps companies concentrate on what is important without getting aderracked Increasingly companies are no longer viewing the operation

of their IT infrastructure as an internal competency and are willing to hand off some responsibilities to those that do IT skills shortage - 'Good help is hard to find has never been truer

than with today's IT personnel. Once help is found, it is difficult and expensive to retain

■ High quality, low cost — Out sourcing allows for the sharing of some very expensive and qualified re sources across multiple users. Best of breed resources are not cheap and do not remain static for long. Out sourcing Internet infrastructure leverages elite staff support, hard ware, software and the facilities in which it resides

▶ Time to benefit advantages — Service provider infrastructure is operational and IT executise is estab lished throughout the service organi zation The opportunity presented by gaining quick access to opera tional efficiencies or improved customer interaction can be critical in a post dot-com era that emphasizes revenue and profit growth

Managarion of risk - Whether economic conditions drive explosive growth or unexpected contraction, outsourcing offers ranely flexibility to wale the internet operation. By allowing for the mitigation of upside and downside risks, outsourcing can accommodate for planning mistakes. E-business prohiferation

Where once sample Web pages were the reason for our sourced hosting, today e business is the key driver -

ASP offering from the fall man igers will grow of the transmorthers. green noun along its to collected one community to a functionally exist. productivity sintes have already be gun to gain traction using the ASP model But strict requirements to garding the ability of the physical in

Significant Frends

Hs. hostier services market continand broad numer-line stable ues to struggle with multiple over able in the reace industry where me-

Hosting Service Stack There are three layers to the hosting

services environment: Value, operational and connectivity





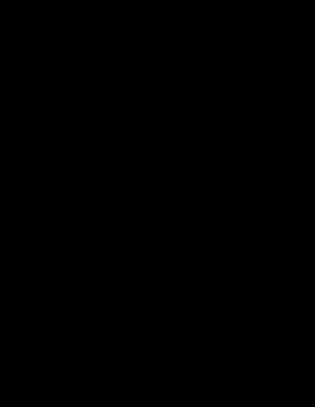












pushing more than 80% of the demand for infrastructure facilities Over the next four years, in terms of volume it is all about a husiness. Although some hosting providers will serve a mixed elect have of a husiness, application service providers (ASPs) and network service providers most will focus on e husi ness sites underpinned by database generated Web pages Despute the complexities, enterprise site builders and operators recognize the advan tures of database driven sites. Many will per for outsours ers rather than acquare the skills needed for the care and feeding of servers, database on

gines and network appliances

Small and medium enterprise markets Recently enabled with broadband technologies and anxious to kickofi Web based institutives, small and medium enterprises (SMEs) will be the strongest demand segment for outsourced hosting solutions. Ah erdeen estimates that the SME market will assume neatly 72% of the hosting services space by 2005 Value propositions, such as providing consistent IT resources and speedy implementation, are a compelling reason for this expansive market seg ment to capitalize on these services ASPrennal

Despete today's slow adoption of the ASP offering, business and IT man agreewill gradually transmen there sponsibility of the application, along with the productivity of the user community, to a functionally expert supply, chain. E-mail and desktop productivity suites have already be gun to gain traction using the ASP model. But strict requirements regarding the ability of the physical in

frastructure to deliver managed serv aces will place an emphasis on the re hable delivery of hosting services

Significant Trends
The histing services marker continues to crobe HSFs are constantly
adding more services and capabilities
as they strive to meet the needs
for significant trends affecting the
hosting services marketplace today
Best of breed partnerships, stable
power, precess and automaties, and
standardized solutions.

Box of headpartnership.

The breadth of services within the heating services market requires a starty of compensiones. As individual suppliers extend themselves our side of their over capitalities, customers are possel to recrue made quate service from a disponent supply chain Today, here dud ser commisses to straggle with multiple offer inge-from proordies that lade quality continuity. Fullure by the supplier to provide consistents audiability, and provide consistents audiability, and the supplier to provide consistents audiability and the supplier to provide consistent audiability and the supplier to the supp



sion entical e business operations are entrusted to third party expert ise. Tightly constructed partnerships and reseller relationships are reguired to leverage competencies and provide a scamless solution to the end user Although few providers are currently in a position to capitalize on this disjointed supply chain, Ab erdeen foresees continued partnering across competencies as a boon to the customerexperience

As these partnerships develop, participants will need to solve some fundamental business issues. Ifke which partner will own the end user relationship or how can the profits be shared. This may be difficult for suc cessful standalone companies with a strong brand identity and a natural unwillingness to distance themselves from the end user Aberdeen commends those providers that recornese the limitations of their in house competence and are willing to hand off responsibilities and revenues to skilled partners.

Stablebours

While the focus in the US has been on the adoption of technology to in crease the scalability of service providers, there's a key pacce of infra structure affecting data center ca pacity just outside the data center walls that many customers - and some data center providers - feerer Access to our most basic technology cal resource -- power -- is an embar rassing issue for many data centers that either cannot access enough redundant power or do not have the technology or expertise to properly monitor and manage power But as loud as the energy crisis is in some parts of the world right now, it is a symptom of the fundamental failure of adequare risk and supply chain management by service providers that is the real problem.

Data center providers are respon sible for the physical foundation of

the infrastructure on as a service This includes the land, building, enency connectivity physical security. climate control and eliminatine any single point of failure that potentially interrupes any of these services. This

requires risk management, change control, resource planning and supply chain management for every re

Where the early Internet data centers falled was in biissfully concentrating on the four walls within plus adequate internet connectivity.

outred facet of the service. Where the early Internet data centers failed was in blissfully concentrating on the four walls within plus adequate in ternet connectivity. Single points of failure were mitigated with redun dant routers and multiple peering points, battery backup inside and generators outside but still many of them had one entry point from the power line and generator into a dusty corner of the data center

The failure to appropriately engineer the data centers for each layer has impeded the data centers from scaling their operations when resources are inhibited by external suppliers. When power companies can't - or won't - bring additional capacity to the data center, and there is no ability to procure or generate additional sources of energy, where is power redundancy?

As resource constraints and customer demand shape new business models for data center companies. there is a change in market focus from land erabbine to increasing onerational efficiencies Some are adding more services to their enter prise customers, and some are providing other types of service providers with the facilities to do business with other complex infrastructure customers. Data centers may share in some of the revenues generated within their walls - cimilar to a retail mall. Whatever models take shape, there is finally a piercing murmur as suppliers focus on best practices, process and procedure. Threw all the technology at any thing, and without understanding the entire business process from start to finish, somewhere, a customer gets lafe on the clouds Process and assensation

Service providers are establishane highly usable infrastructure and management systems to hunch com mon platforms for quick and inex pensive deployment of a managed hosting product portfolio to their customer base. Automated delivery procedures should ensure a consistent quality of service that will drive satisfaction from both customers and partners For example relieving the service provider from the need to manually provide infrastructure expertise and IT skills Instead they should be able to replicate and auto more tasks or functions. Automated platforms position the service provider with a highly scalable offer me destened to draw lone term efficiencies and profitability from the competitive managed services land scape But the system management technology required in such an automated hosting environment is still heing developed. Many of today's management frameworks and device level tools were designed with tens or hundreds of servers in mind not tens of thousands. Similarly many monitoring tools have not scaled to that level, and many service providers have not

automated the metal largen of new cus tomers, honorar on each new customer as a customized proj ect Backup and re store processes are difficult for one cus complex even with the tomer, let alone many customers, and are complex even with the most advanced

software available Resource planning is still done on a spreadsheet instead of automating asset management and trend analysis of resources. Large and small suppliers are bringing upgraded or new point solutions to the infrastructure market, but a true hosting operation support system has not previously cysted. Successful scaling will require a significant level of automa tion based on intelligence embedded within the devices themselves Sometime to delicate and

While custom built IT infrastructure and applications have been available from professional service organizations for decades, the exorbitant expense has often proved unhabitive. In today's economic climate, scalable business models are en voeue again.

With an expected \$70 billion mar ket. HSPs must be prepared for cus tomer growth without customizing every new customer environment. In-tead, preconfigured hardware and software solutions are tested and in tegrated into the provider's environ ment Several competitive options will lakely be available so the cus tomer may maintain a degree of choice As the HSP limits the net-

work variables, a doman expertise is Backup and restore gained by document ing problems and res processes are difficult for one customer. olutions to continually drive inefficienries and errors out of customers, and are the service. In the end, the standard

ized solutions offer

most advanced the customer the software available. benefits of 'cheaper better, quicker, more reliable service.

> Competitive Landscape Over the last two years, providers of all types have entered the hosting

services market. While some HSPs have publicly indicated a target customer segment, few have clearly ar ticulated a distinct value proposition that appeals to a specific sub-segment. As a result, prospective hosting customers are confused in choosing



the HSP that best fits their needs

HSPs. like Exodus Communica tions Inc. and Dieex Inc. often at tract customers based on their bell wether status, rather than their shift ty to serve a specific vertical market or environment. Similarly, traditional carnets like AT&T and WorldCom have attracted customers with their catchall net of abundant infrastruc ture resources. Other emerging providers, like Loudeloud Inc., have relied on the market hype surround ing complex managed hosting to es

tablish them in the marketplace. The competitive landscape is be ginning to provide differentiation as the US economy slows and enter prise customers begin to make more educated samplier choices, HSPs must develop value propositions and pricing schedules that will resonate with specific market segments while providing flawless service through out the customer life cycle

Next, Aberdeen profiles Cable &

let alone many

Wireless, outlings its own unique position in the hostine services market and burblishing the specific value it brings to the table

Introducing Cable & Wireless

Cable & Wireless offers a suite of hosting services that allows growing customers to effectively scale their Web operations with co location, shared and dedicated managed host ing services. With transport speeds up to OC 192, the company can lever age its proprietary fiber optic net work to guarantee a secure and reliable global network. Cable & Wire less has 22 state of the art data een ters, called Internet Solution Centers (ISCs) throughout the world to house operational support for its hosting customers

Cable & Wardess adopted the 'building block' approach for deliv ering its hosting services to drive consistent service and quick time to market for its hosting customers Customers can choose from a variety of pre-defined hardware and soft ware platforms plus service options to meet their unique requirements. Platform options include Sun Solans. Microsoft Windows NT, Windows 2000 and Linux. Service options in clude hardware configuration, soft ware installation, monitoring data back up, usage reporting, network design, load balancing and managed firewalls

Cable & Wireless' hosting solu tions target a cross section of enterprises and service providers located in the U.S. Germany France United Kingdom and Japan.

Amidst today's economic slow down, customers entrusting the opcration of mission critical Web ap plications can only feel comfortable with an HSP that illustrates stability Cable & Wireless has been an exem plan of this in the clobal telecommu nications market for nearly 125 years.

Core Products and Services Cable & Wireless' hosting services

reclude Shared Hosting — This basic serv see provides a hosted Web site and domain name registration as an entry point into hosting. Cable & Wireless also aurments the offering with on line site development and manage ment tools. This service is generally provided on a wholesale basis to Tier 2 and Tier 3 global ISPs.

• WibReady - This offering provides a simple pre configured and pre provisioned dedicated hosting solution with the advantages of 24/7 monitoring, guaranteed bandwidth and back up servers, plus the option to customize additional bandwidth

and technical support Managed Hosting Solutions - Cable & Wireless assumes the responsibil ity for dedicated server equipment and related management resources by offering customers a portfolio of fully managed hosting solutions. Rased on their unique requirements. customers choose from a series of hardware and software options

Cable & Wareless also provides site management and monitoring services. The managed hosting solution is offered with a fixed rate or burstable bandwidth option on a usare based billing model and service level agreements covering installa tion, network access and server avail-

ability-

■ Edge Colo — This provides basic rack and cage space on location serv ices with direct access to Cable & Wireless' global IP backbone It is tarreted at suppliers needing access to the network edge to provide end

users speedy and rehable content • Internet Shock Absorber (ISA) -This caching service allows cus tomers to gain an advantage in the centimal distribution of Web content The ISA service also allows customers to efficiently manage hand width requirements and therefore re duce associated costs. The service is tameted at Internet service providers and content providers.

Conclusion

Cable & Wireless has a strategy that offers critical data services to its business and service provider cus tomers. The commany has launched a portfolio of bosting infrastructure and service options to gain multiple points of market entry While histor ically recognized in European and Asian markets. Cable & Wireless hosting services are well positioned in North America to cater to the needs of customers that find a com petitive advantage in one stop access to a global high speed network. The sheer marnitude of its network reach and strong global reputation should sustain Cable & Wireless as a com petitor in the hosting service market.

Dona Tardelli and Lisa Perri are analysts with the Aberdeen Group. This White Paper includes excerpts from Aberdeen's report Housing Services Chesoarcing E Inciness Delivers





Dailvaring the Internet promise **

You just need to get your brainess orine list - and without the hassle and expense of mantaining dedicated internal resources and equipment. Wherrying about costly hardware, whouse staffing and training, system oppriedes or 24-hour support need to be made a thing of the past.

Our hosting solutions give you peace of mind

Let us do all the worrying for you Our fully managed dedicated hosting solutions will give you the expertise you need to get your business online. And with access to our sop ranked internet network, promising scalability and security in our state-of-the-art global internet solutions Centers – you can focus on growing your business while we focus on your wabbile. We'll help you customize a solution basit just right for your business.

Growing your business on the Internet with Cable & Wireless is easy just call us at 1-868-835-3070 or visit us on the Internet at: www.cw.com

No matter how snall or large your business is, we have the solution

Wearable Storage Device Keeps Records With Patients

Matrevic Data Systems Inc. in DeSoto, Texas, has lauoched a three-mooth trial of a wearable storage device that it claims will reduce medical errors by collecting patient information

in a single location. The application development and systems integration firm plans to enlist more than 5,000 patients, each of whom will wear an SMB flash memory card from Sunnyvale, Calif.based SanDisk Corp. that will

store his medical records The trial is expected to prove that doctors don't have the information they need to properly treat patients unless they have this type of device. according to John Trahan, Matrevic's vice president of part-

Physicians using the device can quickly access a patient's medical history including currect medications, conditions, ce information and prior injuries, by plugging the memory card into a PC equipped with a flash memory reader, according to Matrevic. Several Dallss-based med-

ical centers, along with about 50 physicians, will participate in the trial. Trahan said his firm plans to encourage widespread adoption of the technology by persuading bealth intenance organizations to pay for the product.

HMOs, policy-makers and corporations have pushed the health care industry to seek ways to reduce medical errors ever since a 1999 report from the Washington-based Institute of Medicine revealed that as many as 98,000 people in the U.S. die annually from medical arrow

Standards Lacking While the military and the

Department of Veterans Affairs have adopted personal storage devices, the concept hasn't gained momentum in the health care industry due to a lack of standards, said Wes Rishel, an analyst at Gartner Inc. in Stamford, Conn. For a storage device "to have much npact, there has to be national adoption of the specific technology and IT standards* for creating a portable health

record, he said. But Trahan said that the technology to date has consisted of smart card devices, which have a limited storage capacity of 70 pages plus a few

6,000 pages of text. While this store

of its own problems, according to Richard Telesca, an analyst images. The flash memory card | could be useful for patients | at Cambridge-based Giga In- | day?" Telesca said. 9

formation Group Inc. "The issue with [storage de-vices] is keeping track of them and not losing them. And if you lose them, do you have a biggs issue with privacy than ..

EXTREME RESEARCH

On the Trail of an **Elusive Trojan Horse**

Could a mysterious floating cursor on one engineer's screen indicate a backdoor virus?

SECURITY

MANAGER'S

D JUST SAT DOWN with a fresh cup of coffee when an e-mail popped up on my screen with a ubject line that read: "Engineerse Oracle database has been backed." A staffer had sent the message to all of our operations management personnel, plus about seven other sysem and database adminis-

trators. My first thought was, "Oh. great - we've been hacked, and now the whole company knows." I made a mental note to

tell the staff that in the fu ture, if they suspect that a backer has visited them, they shouldn't announce it to the entire company. Because of the way our en vironment is configured, there's a high likelihood that if there's a back, an internal employee is respon sible, rather than an inquis itive college kid.

So then I was concerned that the perpetrator might know that we were on to him and try to cover his tracks. The e-mail disclosed that the Oracle system passwords had been changed without authorization. I wouldn't immediately attribute such action to a hacker, but nevertheless, someone had started the ball rolling, and as the security manager, I had to

Mysterious Moving Cursor

In addition to news of the password situation. I had received information from an application engineer about a month earlier who reported some weird behavior. His cursor started moving by itself, opening the Start menu" and browsing around the computer without any interaction. That bit finformation concerned me then.

Now everyone thought that someone had gained remote control of one of our engineers' computers and had hacked into an Oracle database from the engineer's desktop.

son who might have gained remote control was from the outside. We use network address translation (NAT) which means that the IP addresses of our desktop computers are translated tn another IP address before leaving our petwork. It's a common practice that we use to conserve IP address space internally. And it also provides

come additional contriev if configured properly. As for that Oracle database. I immediately took an image of the system, using the Unix data dump utility to copy the entire file system to an external drive. I oext had the administrator change all of

the passwords on the Then I received a telephone call from the manager of engineering. He told me that the password change was a legitimate one made by one of the Oracle administrators who

Cool - that issue seemed to be resolved. Next. I wanted to address the issue of the floating Windows NT mouse cursor. My fear was that a Trojan horse program was in the sys-

tem and was allowing a third party to gain control. Although we use NAT for our internal desktops, there's always a way to bypass security. So I was still worried

A Trojan borse is a bit different from a virus, in that it can be disquised as something legitimate and attached to. say, an e-mail message. A virus normally affects one file but can have a devastating effect on the file system or oper-

ating system. A Trojan horse is really a backdoor program that can let a hacker gain administrative access to an infected computer at a later date. If the hacker named the Trojan horse something clever like orgehart.ppt.exe, attached it

to an e-mail and then spoofed the e-mail to make it appear to originate er it was highly untikely that any ner- from, say, the CFO, most employees, would be inclined to accept the attach-

Notice the .exe extension. That's a bad thing. Executable programs, when launched, are under the control of whoever programmed the executable. The problem is that unless you train your employees properly, most won't know the difference between a legitimate attachment (such as PowerPoint slides) and an executable attachment (with ex-

tensions like .exe, .vbs and .com). The one rule I continue to cor cate to the entire company is to not run any executable program unless it's from a trusted source and the program can he verified as legitimate. We have a filtering program that's supposed to do this automatically, but unfortunately, it wasn't configured properly and exe attachments are being allowed through the e-mail gateway.

Security Checklist

Getting back to the work at hand, I needed to determine whether the engineer's desktop was infected with a Trojan horse program. Such programs are often configured to he virtually undetectable: even the best antivirus programs can't find them all.

In dealing with this security hazard, I could have simply had this engineer's designs hard drive completely wined clean and the system rebuilt. That's probably the most effective way to eradicate a Trojan horse, but it's also very disruptive to the end user. I decided to first have the engineer go through a checklist to determine if the comput-

er had been infected. We use a checklist I download from the CERT Coordination Center's Web site, along with my own checklist compiled from many different sources. It's important to have multiple mecha-

nisms for introsion detection, and it's my job to ensure that effective tool are in place and ready to go so the staff won't have to scramble at the last minute. It took about 45 minutes for the engineer to go through the checklists before reporting that there were no indications that his system had

I now had a dilemma. Should I trust that the checklist was comprehensive and that the engineer didn't take shortcuts? If I just let it pass as some weird enon and later found that someone bad gained unauthorized ac-

THISWFFK'SGLOSSARY

when launched, may destroy deta, steel account information and allow a hocker to remotely control a system to launch attacks on other systems - all without

ok Ortilise: Advertised as a remo violatuation tool, this client/server nitty functions as a Trojan horse. The schar a-mails the server portion as a file attachment and renames it to som thing innocuous, such as orgohert, ppt. eve: When the recipient executes it, the server installs itself and automatically notifies the hacker, who can gain across to the monoto computer

HNKS-

se, Astrock For mor ck Online and of

ow do you detect a Troyan horse pr yen? The "Windows NT Intruder De

tection Checkled" at the Web site of the elion University is a good start

te' is a well-write

cess, I would have some serious ex plaining to do. I could have run through the checklist myself, but the computer in question was located in a

remote office Well. I can't he everyone's friend, and I'd rather he safe than sorry. So I had the IT person at the remote office wipe the system clean and rebuild it. The engineer was quite mad at mc, complaining to his manager about how this was point to affect his productivity. that he had wasted his time going through the checklist, that it was just some weird computer glitch and that he hadn't downloaded an executable file or e-mail attachment.

I guess you can't be an effective security professional without usining some resentment or being called a barrier to productivity (and other names I'm not and probably never will be privy tn). But in this job, I suppose it's all in a day's work.

IBM)

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IT'S A DIFFERENT KIND OF WORLD. YOU NEED A DIFFERENT KIND OF SOFTWARE.

Complete the Revolution

The Information Revolution work field its promise until we stop thinking an though we're still in the Industrial Revolution, according to Michael L. Dermouse, director of MITs. Laboratory for Computer Science. After 60 years of building computers, little me changed, says Dermousco, the author of green books, including his latest; The Untinitheed Revolution Humans-Centered Computers and What They Cam Do for Us (Harper-Colless, 2001). The future of the Computer of the Computers of the Computer of the Computers of the Computer of the Compu

the last direct beam quarks compaign, a whole has assumed in Park and those he for two short compaign he would put and in Park Park has different less personal consistent. There is not different from personal consistent of the Park has compaign on the one hand and human-centric compaign on the one hand and human-centric compaign on the one hand and human-centric compaign on the other. They are not the same. For raise compaign implies to 1 of equipment, the park has been been as the park has been been been proposed to the park has been been been proposed to the park the park has been been been been been proposed and the park has been been been been been proposed and the park has been been been been proposed by the park proposed proposed

that calls for more or less stuff is secondary

the factor compiling model you describe, interaction and the speach oscillate. Why Albook of the control of the speach oscillate. Why Albook of the control of the control

Persaire competing is inplanting to be fact. With cell phanes, injury and heralitaks, we can work probly much anywhere. How lamp before the transferrantion that the use of the and more, shouly by tabling in a resurf Pervasire computing is cary. It's what we already have, only more of it. Human-resident computing will take a shift in thinking, and it will take time for vendors to offer hardware and WHO IS HE?

MIT futurist Michael L.

Dertouzos says making
machines serve people,
instead of the reverse,
will transform the way
we live and work



software that expresses it. But work in busuarcentric systems goes on, it has for some time, first at the University of California, Berkledy, ... Carnegie Mellon University, Georgia Institute of Technology Land I the University of Washington, Of course, at the Oxygen Project as MIT. And a lot of work is being dose in speech recognition ... at IBM and Philips and Microsoft. We're starting to see also of start upp in this area, and because the control of the court of the court of the beatter was the control of the court of the court of the beatter was the court of the court of the court of the beatter was the court of the court of the court of the court of the beatter was the court of the court of the court of the court of the beatter was the court of the court of the court of the court of the beatter was the court of the court of the court of the court of the beatter was the court of the

What will it take to cause commercial IT developers to embrace the cancept of human-easitie computing? It's already happening. Microsoft has amnounced Hallstorm, a user-centered computer environment, as they call it, part of their. Net system. Ultimately, successful prototypes of human-centered systems will cause start-ups and big companies to so after the new forms.

say we have to change our attitudes, too, and me them more human-centric, What do you mean? Take e-mail. We have to do something or we'll all drown in e-mail. [One survey says that peo ple) spend an average of an hour and a half a day on e-mail. That's a ridiculous time, and it will get 10 times bigger in the coming decade, as new users join and current users devote more time to e-mail. Surely, people won't spend 15 hours a day on e-mail. And you can only do a little bit by machine. I spend an average of 18 seconds on each e-mail, because I've set up push-button-action responses, but even so, I am only delaying the arrival of my total overload point. We have to start using metadata and XML to put labels on e-mail that describe what's in the e-mail messages so that we and our machines can select or reject the e-mail that comes in. Ultimately, you and I have to change our attitudes and trash a lot of the mail we get. Just because we have become intercor nected, we have not acquired the right to bother other people with our writings, nor the obliga-tion to respond to them. E-mail is not going to

Will there be a backlash against technology? Not a backlash, but how much better off we'll be with tomorrow's human-centered systems depends on the individual. Look at it this way: You can divide people into their principal components. I like to think of the individual as a four-cylinder car: The four cylinders are our physical, rational, emotional or artistic and spiritual dimensions. Most technologists run on only one or two cylinders, generally the rational and physical. Humanists run on just about the same num ber of cylinders: the physical and artistic. So if you're a technologist or a business per rused on planning and getting things done. you'll be incredibly better off with computers. If you're an artist, you'll be only marginally better off. You'll have tools to do your creative work, but you won't be able to write or paint bette And if you're a monk, forget it. You won't be better off, because spiritual activity is primarily internal to people. I'd like to see us all learn how to run on all four cylinders. To me, that's what it means to be humi

change thousands of years of socialization.

is want their CIOs to be technology visionaries o also deliver a solid return on investment. In the context, how does an IT manager embrace the contric feture you describe? Sorry to toot my own horn, but [he] starts by rending my book. Then, [he] browses the Web and reads about these other efforts I've told you about (Then be) undergoes a total brainwash by focusing on having systems serve people, rather than the other way around. Look at today's speech systems. What are the 200 start-ups doing with speech? Can you use speech in your business? Then look at automation. Can you auto stuff people do that does not require intelli-gence, so you can relieve them of this work? Can you belp your people work across space and time more effectively? Can you customize your systems to your people's individual needs: It's not enough to say you support the ideas. You must show it in every action.



THE VISITORS' UNIVERSE NEEDED CUTTING-EDGE TECHNOLOGY, THIS UNIVERSE HAD IT.

DB2 FOR WINDOWS 2000

TWICE THE POWER OF ORACLE . A FRACTION OF THE PRICE



IT'S A DIFFERENT KIND OF WORLD.
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HAT BO YOU LOOK FOR in a new desktop PCF A big, bright screen?
Zippy new processor? Capacious hard drive? Acres of RAMZ Sorry, none of these is a real concern of corporate PC buyers. What they're looking for probabits in I wen in the machine.

bby isn't even in the machine. Numerous studies have shown that the price of a new computer is only a small part of the total cost of ownership (TCO). Support, maintenance and other intangibles cootribute far more heavily to the sum. Those who buy desktop computers by the tens, bundreds or thousands have take on this lessoo to beart. When they go shopping, therefore, their list of desired features have very little to do with hardware. service in Maynard, Mass. That's why many occupated beyon was the fine-michies to be able to handle current operating systems and anticipated sew osciwith amany energyines we Windows Vis W. To, White many energyines we Windows Vis W. To, dows 2000 or Me. In addition, any planning for these to the years into the future ment take into account the appearance of even never operating systems. On the present of Mark Wall to contribute "will-filled will be appeared MAN. What constitutes "will-filled will be supported to the layer and oct in the roy "minimum progressions" of filled by operating systems readors. Commelbit, Networked machines are a given in cocommittee, the contribute of the con

Buying PCs Enterprise

Corporate PC buyers rank flexibility and total cost of ownership well ahead of specific hardware features. Smart vendors are meeting those needs. By Edmond X. DeJesus

Smart vendors are paying attention to this and adjusting their offerings accordingly.

Hardware Necessities

Corporate buyers receptive that certain spected modalities Pace secondation Pace are received including the feel following: accordant Pace are received including the feel following see magazine reviews of PCs, one older's choice will be conceived by the supervaluation to die fine primes components, prime design, as a prime specie part to make the primes components are primes design, as a prime specie part of the primes components of the primes components are provided to the primes of the primes of the primes components of the primes of the pr

Operating system ready. "A change in operating system is the most disruptive upgrade an enterprise has to face," says Paul Neilson, vice president of technical support at Monster.com, an online job-placement with beliable network interface cords or even with the LAN (explainless. With between others to warry about, without his countribute to the flexibility of the contribute of Geltscome loss in Paulacians, Calli, which provides and gratieras and has more than NGDO adversions. More than the contribute of the contribute of the contribute of the contribute and secure connections. Commercially and secure contribute and secure connections. The contribute of the manute and prices may make the contribute of the contribute of the secure contribute of the contribute of the contribute of the secure contribute of the contribute of



pack, ship and reconnect a desktop. "Notebooks make it possible for employees to remain productive when away from the office, whether at home or on the road," says Jorgenson. Of course, even deskbound employees can use a notebook.

employees can use a notebook, consideration of the process of the

Cost Control

However compelling a machine's technology, corporate buyers woo't touch it unless its vendor can satisfy essential nontechnology requirements. The following considerations all contribute to reducing

total cost of ownership:
Ease of purchess and deployment. Buyers want purchasting to be an easy process, and you'd think vendors would feel the same way. However, while work ownership was the same way to be probable in their ordering processes, others have. Wendors that offer online ordering and extranet support for customers are more appealing to buyers.

"The ability to track orders online from inception to delivery is a plus," any 50c Puglist, CIO at Emcor Croup Inc., a global construction conglomerate in Norwalk Conn. Dell Computer Corp. is one supplies that offers such tracking, Speed of delivery aids in rapid deployment to employees, and international delivery boost global rollouts.

Besides getting it fast, corporate buyers want to get it right, too. Vendoes that offer buyer-specific hardware configurations, such as Compaq Computer Corp, and Dell, earn the gold stars here. "It's important that we are able to supply standard configurations to remote sales partners with nationwide support," says Rick Beardsley, IT director as Indoff Inc.,

a fast-growing drop-ship distributor in St. Louis. Software preconfiguration also saves time and en-

"Dell allows us to create an image of all required software — operating system, office applications, even our own custonized and proprietary apps that they then load ooto machines before they ship," says Neilson. This saves the systems folks from loading and testing the software themselves before handing and testing the software themselves before hand-

ing on to the employees.

Stable platform. All this preconfigured software isn't worth a whistle if a product line changes or, even worse, ceases production. Corporate buyers like product lines that doo't change, which seems counter to the number transfers to construct transfer and the contract.

worse, ceases prosuction. Corporate outyers use product lines that doo't change, which seems counce to the vendor tendency to constantly tweak and fiddie with machines in the never-ending race to be, momentarily, the best. "We prefer product lines that are uniform and consistent," says Puglist.

King concurs, adding, "Ideally, we favor machines we can keep buying for at least 18 months." You can't baine them. Every component change means another driver to keep track of, another wrinkle in service and support, another potential glitch to bog down IT staffers and rev up the cost meter.

TECHNOLOGY

Middlits is important for other receives two their sould of assected incorporate IV proteiners is so min interest the impact set the user Medily, the coupleting of the impact is set the user Medily, the coupleting set in the interest incorporate proteiner and interest in titles. This implies minimal change for the user This ment the new comparte books and acts the three of the low locarina, earner and a simple impaction. That see the meaning corner and a simple impaction that see consistent and the contraction of the contraction of the three a budget for new comparer insertation, they will then it in particular their reduction.

that out, the, lave a numer Patherm adults also influences services and support, specially as the regard to spare pairs. So in the patherm and the patherm and the patherm and contragedly slong in and out if the new machine does not negally slong in and out if the new machine does not negally slong in and out if the new machine does not necessary to the same composition. So I fellow Vendors who shop around not be qualished my rise of the machines they sell may be saving money in core us, the laws were to the patherm and the patherm and the laws were to expend the patherm and the patherm and laws and the patherm and the patherm and the patherm and laws and the patherm and the patherm and the patherm and the laws and the patherm and the patherm and the patherm and the laws and the patherm and the laws and the patherm and the laws and the patherm and the patherm and the patherm and the patherm and the laws and the patherm and the patherm and the patherm and the patherm and the laws and the patherm and the p

Service and upport. Corporate buyers aren't microstoid m Ro-minner was when they call at condex such support healtime. If they don't get fast and accurate resolution of all difficulties, they III date their brushness classifiers. If a sender has been dong at bornwesk, it will be usual the known hardware and software configurations of the machines; per sade. In the was, the malinners of perhaps the can be not to the they will be a sender to the sender of the controlled to the sender of the se

staffer provide expert frontine-vertice for their misclines. An online specime of ranting allows company employees to come verified to historia near-vedication, complexes to come verified to historia near-vedication, to get the featest service and support imaginable, since their own employees are proxiding it. That persense up and maining again fact. It also allows the large properties of the program has a support of the prosense of the program has a support of the program has a additional plans. Once an image of space ports move rapidly and simply data is poun of the program has a support of the program has a proper program of the program has a prosense of the program of the program of the prosense of the program of the program of the prosense of the program of the program of the prosense of the program of the program of the prosense of the program of the program of the properties of the program of the program of the properties of the program of the program of the prosense of the program of the prosense of the program of the program of the program of the protraction of the program of the

rate Puper sees a vendor with only a handful of sertical beardings, he's paint to look for another vendor. Detaminations want to made ware that their users on not service wherever they may be especially on the total some vendors arrange for extract support so recuse meets can obtain access to software and other titles form the Web-That can save a loot trune and difficulties and both ends.

notal presence and prefer vendoes that are also global. Per of this involves support Longmans sum their ownesses travelers to knew vendor be atoms mearly librories; most of its host advise that one contributions are most of its host along the phospherit. If a company is opening an office in a new country, manage-schoit in wait their copologies (vial) ding liber thambs wanting to PLs, shipped from the long office in the contribution of the contribution of the Chief years of lead vendors representative bases. Worshore that can substantiate claims on international conditions have good per some and an advantage of the contributions.

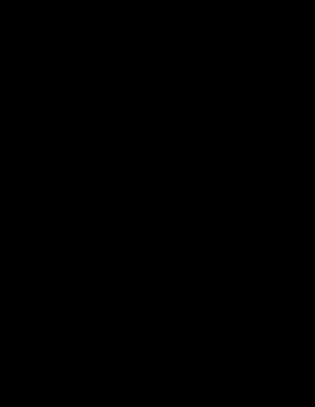
"One reason we chose Robirba is their truly international scope," says Garliocan's Heller. As we expaind globally, we can be confident our people are using the same devices and getting the same support, corresponding." Relatorship, Don't we all want someone we can trins-C reported IX buses, are in different. They want a sendor the sea ment at enterostiph with and that movies squalities by cond prace and components. Mere ill, a company relies on a centor's products to support in business. Shouldfur life two parties treat them declings with each other is more than a trainaction. This lebus technology officed for a major outpour run per order runks a traverorthy and depression and producting them. says Richard Cheston, director of manageability at IBM's Personal Computing Division.

Some vendors clearly don't think so They want to move hoves, period. However, for those vendors willing to make a commitment, corporate PC buvers are more than ready to reciprocate They'll do almost anything to lower 10.0.3

Defesias (dejesias a compuserve.com) is a freelance technical scriter in Normoud Mass.

Corporate PC Buyer's Checklist

PC model				
Hardware				
Notebook OK?	JYes J%o	JYes JNo	⊒Yes ⊒No	JNs JNo
Capable for ordinary uses?	⊒Yes ⊒No	JYes JNo	JYes JNo	⊒Yes ⊒No
Supports current operating system?	JYes JNo	_1Yes _1No	JYcs JNo	JYes JNo
Supports projected future OS?	⊒Yes ⊒No	JYes JNo	⊒Yes ⊒No	JNs JNo
Includes network interface card?	⊒Yes ⊒No	⊒Yes ⊒No	⊒Ves ⊒No	⊒Yes ⊒No
Includes wreless LAN?	⊒Yes ⊒No	_1Yes _1No	⊒ Ves ⊒No	⊒Yes ⊒ No
Includes modem?	⊒Ves ⊒No	⊒Yes ⊒No	JYs JNo	⊒Yes ⊒No
TOTAL COST OF OWNERSHIP				
Easy ordering or online ordering?	⊒Yes ⊒No	⊒Yes ⊒No	JYs JNs	JYs JNo
Order tracking?	⊒Yes ⊒No	JYes JNo	JYcs JNo	JYes JNo
Customer access to extranet?	⊒Yes ⊒No	J Ves JNo	JYcs JNo	14s 18o
Fast delivery?	JYs JNo	→Ves →No	JNs JNo	JYes JNo
Customer-specific configuration?	JVs JNo	J Yes J No	⊥Yes →No	JYes JNo
Software preconfiguration?	JVes JNo	⊒Yes ⊒No	JYes JNo	JYes JNo
Product available long term?	JYes JNo	JYes JNo	This TWo	JYes JNo
Same product components?	JYs JNo	JNs JNo	JYes JNo	JYs JNo
Product available globally?	JYs JNo	JNs JNo	JYes JNo	J Yes J No
Enough support locations?	⊒Yes ⊒No	⊒Yes ⊒No	⊒Yes ⊒No	⊒Yes ⊒No
Support available globally?	⊒Yes ⊒No	JYm JNo	JYes JNo	⊒Yes ⊒No
Train customer technicians?	JYs JNo	JYes JNo	⊒Yes ⊒No	⊒Ves ⊒No
Software available online?	⊒Yes ⊒No	JYs JNo	JYs JNo	JVs JNo
Troubleshooting available online?	JYs JNo	alts also	JYes JNo	JYes JNo
Good relationship with vendor?	⊒%s ⊒No	⊥Yes ⊿No	J'Yes J No	J¥es J¥e



Stability is important for other reasons, too. One goal of a successful corporate PC purchase is to minimize the impact on the user. Ideally, the employee should be able to start using his new machine as soon as he gets it, with no down time or lost productivity. This implies minimal change for the user. The more the new computer looks and acts like the old computer, the better. Most buyers are shooting for a low learning curve and a simple migration. That's because organizations realize that even if they don't have a budget for new computer instruction, they still have to pay for that education. If they reduce

that cost, they have a winner. Platform stability also influences service and support, especially with regard to spare parts. "It's no sood maintaining a complete inventory of source we can rapidly swap in and out if the new machine doesn't use the same components," says Heller. Vendors who shop around to buy equivalent parts for the machines they sell may be saving money in one way. However, to corporate buyers, nothing short of identical machines will meet their criteria for simple support. They're going to look under the hood, and they'd better see the same thing every time they do. Service and support. Corporate buyers aren't interested in 30-minute waits when they call a vendor's tech support hotline. If they don't get fast and accurate resolution of all difficulties, they'll take their business elsewhere. If a vendor has been doing its hon work, it will be using the known hardware and software configurations of the machines provided. In this way, the uniformity of product line and the de-

Vendors like Dell shrewdly enlist the buyer's own staff to provide expert frontline service for their machines. An online system of training allows company wees to earn certified technician accreditation. This is a major win-win strategy. It allows customers to get the fastest service and support imaginable, since their own employees are providing it. That gets users up and running again fast. It also allows the vendor to minimize calls and on-site visits. The Dell program has an additional plus. "Once an Emcor employee becomes an official technician, they can order spare parts more rapidly and simply than by going through the usual channels," says Puglisi.

tailed preconfiguring of machines can work to the

Vendor support should be ubiquitous. If a corprate buyer nees a vendor with only a handful of service locations, he's going to look for another vendor. izations want to make sure that their users can get service wherever they may be, especially on the road. Some vendors arrange for extranet support so remote users can obtain access to software and other files from the Web. That can save a lot of time and difficulties on both ends.

nce. Many corp tional presence and prefer vendors that are also clobal. Part of this involves support: Compunies want their overseas travelers to have vendor locations nearby. However, more of it has to do with initial deployment. If a company is opening an office in a new country, managers don't want their employees twid-

dling their thumbs waiting for PCs shipped from the home office. They want a local vendor representative who can provide the same machine as the folks back home. Vendors that can substantiate claims to international availability have great leverage.

"One reason we chose Toshiba is their truly interal scope," says GoTo.com's Heller, "As we expand globally, we can be confident our people are using the same devices and getting the same support.

mship. Don't we all want som trust? Corporate PC buyers are no different. They want a vendor they can build a relationship with, and that involves qualities beyond price and components. After all, a company relies on a vendor's products to support its business. Shouldn't the two parties treat their dealings with each other as more than a transaction? "One (chief technology officer) of a major outsourcing provider ranks a trustworthy and dependable relationship as one of their top criteria."

says Richard Cheston, director of manageability at IBM's Personal Computing Division.

Some vendors clearly don't think so. They want to move boxes, period. However, for those vendors willing to make a commitment, corporate PC buyers are more than ready to reciprocate. They'll do almost anything to lower TCO.

Delesus (deiesus@compuserve.com) is a freelance technical writer in Norwood, Mass.

Corporate PC Buyer's Checklist

Vendor name	Vender1		Von	ender 2		Vender 3		1	Vendor 4		
PC (1940H)	100		1			3			1		
Hardware			1			1			1		
Note Book BK?	C3 Yes	Q No	1	C) Yes	□ No	1	O Ves	□ No	1	O Ves	□ No
Capable for ordinary wars ¹¹	□ Yes	O No	1	D) Yes	D No	1	O Yes	□ No	1	O Ves	C) No
Supports current one along system?	C) Yes	□ No	1	C) Yes	C) No	1	C) Yes	□ No	1	O Yes	C) No
Supports projected future US7	O Yes	□ No	1	O Yes	□ No	1	O Yes	O No	1	Q Yes	C) No
Includes network interface card 1	C) Yes	O No	1	C) Yes	O No	1	C) Yes	□ No	1	□ Yes	□ No
includes wireless £4N7	C) Yes	O No	1	O Yes	O No	1	□ Wes	O No	1	□ Yes	O No
Includes modem?	C) Yes	□ No	1	C) Yes	C) No	1	☐ Yes	O No	1	O Yes	CI No
TOTAL COST OF OWNERSHIP											

Easy ordering or unine ordering?	□ Yes	□ No	1	C) Yes	C) No	1	C) Yes	O No	1	D) Yes	ON:
Order tracking?	□ Yes	CIN6	1	O Yes	C) No	1	O Ves	C) No	1	Ď₩s	ONo.
Customer access to extranet?	DYs.	O No	1	□ Yes	O No	.1	□ Yes	O No	1	C) Yes	□ No
Fast delivery?	D'No	O No	1	O Yes	O No	1	O Yes	□ No	ı	□ Yes	O No
Customer specific configuration?	D Yes	O No	1	OYes	O No	1	Q Yes	O No	1	O Ves	O No
Software preconfiguration?	D Vis	□ No	1	☐ Yes	O No	1	O Yes	O No	1	□ Yes	O No
Product available long term?	□ Yes	□ No	1	O Yes	C) No	1	Q Yes	O No	1	O Yes	C) No
Same product compenents?	□ Yes	□ No	t	O Yes	□ No	1	O Yes	O No	1	O Yes	O No
Profort manage globally?	QY ₈	□ No	1	O Yes	O No	1	016	O No	1	Q Yes	O No
Enough support locations?	O Yes	C) No	1	O Yes	Q No	1	C) Yes	Q No	١	C) Yes	□No
Support annual for adult of a 2	-	016		-	0#	1	24	-		~	-

: O No | O Yes O No | O Yes O No | O Y O'Yes ONo | O'Yes ONo | O'Yes ONo | O'Yes O'No DYES DNo | DYES DNo | DYES DNo | DYES DNo

D'Ves DNo | D'Ves DNo | D'Ves DNo | D'Ves DNo O'Ves O'No | O'Ves O'No | O'Ves O'No | O'Ves O'No

250 PEOPLE WHOSE IDEAS YOU'D LOVE TO STEAL. (HEY, WHY NOT DO IT OVER DRINKS?)



ctoforum.infoworld







Virus signature updates are a continuing headache for security managers, who want better tools. But can vendors deliver? By Robert L. Scheier

ager, Phill Bakker can't be too

As senior security architect at eHealthDirect Inc., a Lexington. Mass,-based health care application service provider, he's responsible for safeguarding sensitive health care claims data. Like many security professionals, be uses antivirus prod-

ucts from several vendors to be sure be always gets the latest virus natches and descriptions. His problem, though, is making sure all of the updates from all of the vendors are distributed at the right time to the more than 150 workstations and imately 50 servers on his network. He and one staff member must do much of that work manually, which ployed 18 months ago chews op time and can lead to errors. "There are a dozen or more companies facturing antivirus-type products. It would be really nice to see all of those companies get together and have a common console" to help manage the update process, says Bakker. But until antivirus vendors release such a tool, security administrators ast rely on a hodgepodge of update ols, manual procedures and a "defense in depth" strategy that extends scanning to servers, such as those that

handle e-mail, in hopes of catching

viruses before they hit the desktop Most antivirus tools today work by scanning for specific known viruses. looking for "signatures" such as particular file names or certain types of e-mail attachments. But with as many as a dozen major vendors issuing reqular signature updates, keeping hundreds of desktops and servers up-todate can be more work than busy support staffs can handle. And some antivirus products also require updates for the envise that scans for sinuser

lesper Johansson, an assistant professor of information systems at Boston University, cites one major company, which he declined to identi fy, whose PCs' virus lists haven't been andsted since the machiner were de-

According to John Pescatore, an analyst at Stamford, Conn.-based Gartner Inc., "At Gartner, we're declaring signature-based antiviral (protection) at the desktop to be dead. It's providing nearzero value today, mainly because of the lag in updating the signatures. Undating is easier on servers because there are fewer of them than there are desktoes or notebooks, and

servers spend more time linked to the Web, where they can capture virus updates distributed by vendors. But security managers must still make

sure every system has the proper updates to protect their companies from

Sean Mahon, manager of security at an East Coast financial services firm estimates that he's able to keep 97% of his Windows-based systems up-to-date with the latest virus definitions from Symantec Corp. in Cupertino, Calif. "I want to bring it up to 99,9999%," he says, adding that he wants to automate the update process to stop virus attacks more quickly

Rising Threat The need for up-to-date virus protection is greater than ever before, say security managers and analysts, because of the increasing importance of e-commerce and e-mail, which expose corporate systems to more backers. Some newer viruses can infect systems running Microsoft Corp.'s Outlook and Outlook Express e-mail clients when a user first opens an infected e-mail, unlike earlier viruses ments, says Brett Eldridge, co-founder of OneSecure Inc., a Denver-based firm that builds and manages secure networks. Microsoft has issued a natch against such attacks, he says, but "you have to distribute that patch to all your users," including those who aren't linked to the corporate network Buying and distribution undates

from multiple vendors may be a headache, but it's crucial that you get the fix for any future virus as soon as it becomes available. "I can't rely on just one manufacturer," because it's impossible to know which vendor might come out with the solution to the next Melissa virus fastest, savs Bakker With all this manual work, it's no wonder security administrators long for a single tool that would let them schedule virus updates, coordinate

their rollout and confirm when they've

been completed. Several leading antivirus vendors say they have no plans to develop such a cross-platform console. "There is no need for multivendor antivirus" protection, because the major antivirus vendors issue patches for new viruses within a counte of hours of each other," says Gary Ulaner, group product manager for Symantec's Norton Anti-Virus Corporate Edition. Besides, he adds any unador that built such a console "would be basically admitting that their full complement of products is not a good approach."

However, McAfee, the antivirus diviaion of Santa Clara, Calif-based Network Associates Inc., plans to take the first step toward such a console, with the expected release of Version 2.0 of its ePolicy Orchestrator this month, says product marketing manager Ryan McGee, It will provide a networkwide view of which client machines are pro tected not only by McAfee but also by Symantec and Cupertino, Calif.-based Trend Micro Inc., he says, with future releases possibly adding the ability to monitor servers and other devices to determine if they have updated virus descriptions. But producing a console that could actually manage tools from multiple vendors would require closer cooperation amone antivirus vendors than exists now, McGee says.

In the meantime, security managers

are using a mix of vendor-specific update tools, manual processes and some third-party software to perform virus updates. One method is to download the latest antivirus definitions as part of the user's log-in to the network Andy Benson, network manager at Schwartz Communications Inc., runs the Norton AntiVirus product for Net

MANAGING THE



It would be really nice to see all of those [antivirus software] companies get together and have a common console.

> PHILL BAKKER, SENIOR SECURITY ARCHITECT, ENEALTHDIRECT INC

Ware and for Windows NT at the Waltham, Mass,-based public relations agency. Every Monday, he makes the download of any available virus updates an optional part of the log-in process for his 200 users, which he estimates keeps 90% of his client systems updated. While the updates take too long for most remote users, he says, those systems are usually updated when a user returns to the office. For each antivirus product, security managers can use the management console included within the products, such as the Symantec System Center central management console and McAfee's ePolicy Orchestrator. Companies running Microsoft Corp.'s Systems Management Server (SMS) can use software distribution tools written for

SMS, such as Cognet 3.5 from Cognet Corp. in Valhalla, N.Y. Mahon uses both an update written into the log-in script and the Cognet tool to distribute virus definitions to his users.

Another option, says Eldridge, is Mountain View, Calif-based Marimba Inc.'s change management tools based on its Castanet and Timbale content distribution technology.

Developing a Strategy

Until someone discovers the Holy Grail of antivirus management, analysts and security managers recommend making antivirus updates as easy as possible for users by creating a defense that doesn't rely only on desktop antivirus updates, along with fine-tuning your procedures for finding and stopping virus outbreaks. This approach requires "putting in multiple layers of security, so if one fails, another one will catch something," says Eldridge. Besides putting antivirus packages

on every client, for example, many istrators use virus scanners on e-mail servers. Keeping client-based scanners up-to-date is vital, because viruses in encrypted e-mail can escape server-based scanners, Eldridge says Eventually, the need to perform such cumbersome updates at the desktop will fade as antivirus vendors produce tools that identify viruses by detecting their suspicious behavior, not by com paring them to a list of known virus

signatures. Pescatore predicts that such behavior-based tools will be most popular on harder-to-update desktops and notebooks. Signature-based antivirus tools will continue to be used on e-mail and other servers, he says, because it takes less processing power to scan for a list of known viruses than to dynami-cally analyze the behavior of incoming

files or e-mail.

My Kingdom For a Console

IT managers, say they want antiving recognized took that can u Coordinate and manage ante updates from multiple vendors.

enitor client and server hardway for current antivirus definitions and pro de reports to security menegers. · Coordinate, schedule and quaran tine updates automatically until they're checked for safety.

m Provide alerts when new antiverus definitions are released, and take pre-ventive measures (such as blocking certain e-mail attachment types) while

McAfee's Outbreak Manager technology, which ships in several of the company's antivirus tools, allows administrators to define suspicious behavior, such as when an e-mail attachment tries to read a user's e-mail address book, and to define which actions to take if the behavior is spotted Symantec already ships its Blood-hound technology, which examines code for suspicious behavior, in the scanning engine used throughout its product line, says Ulaner.

But such heuristic tools will only complement rather than replace sign ture-based antivirus weapons for the foreseeable future, observers say. And that means security managers will keep searching for easier ways to keep their antivirus weapons up-to-date.

Scheier is a freelance writer in Boylston, Mass.

TECHNOLOGYEMERGING COMPANIES

Start-up Profits From E-Legal Activities

DataCert automates the bill tracking process for corporate legal departments

THE HOME DEPOT Inc. receives 8,000 legal bills every month, says Libby Tronghton, the chief systems specialist in the building supply retailer's legal department. That volume of paper makes it difficult to monitor the law firms - which Hume Depot pays on a percase basis. So Troughton is working on a project with DataCert Inc. to automate the

bill presentment and payment The new system will give Home Depot a way to collect and analyze its billing data, she says. It will also help the Atlanca-based retailer save mon ey by reducing the number of clerical employees needed to handle accounting chores. monitoring compliance with corporate guidelines — such as checking that outside firms adhere to negotiated rates for things like faxing and making copies, and cutting checks ster so the company can earn discounts for speedy payment.

Although legal departments have wanted to move to electronic billing for years, there isn't a common document formay used throughout the industry that will ease the process, says Eric M. Elfman, president and CEO of Houston-based DataCert. Many small law firms still generate unique paper invoices, he says. By acting as a middleman validating and reformatting legal invoices to comply with XML data schemata like the Legal Electronic Data Exchange Standard 2000 - Data-Cert's ShareDoc/Legal Web service can offer customers the cleso XML-formatted data that's necessary for online

Elfman says that the Share-Doc/Legal service works even if the source document is a print file. All DataCert needs is a digital representation from which to scrape data; it will penerate a translation whereto consert from the outside counsel's file formus to the client's format. Law firms can send bills to

the translation and validation. then sends the resulting XMI data to the client company. The law firms don't have to install any hardware or software By using a Web interface, says Elfman, DataCert can enforce security through public-

key infrastructure encryption their corporate clients by logand digital certificates without ging onto the ShareDoc/Legal modifying the law firms' sys-

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DataCert Inc.

cation: 3100 Timmons, Suta 310 Houston Texas 77027 Auphone: (713) 572-3292

Neb: www.datacert.com The technology: Secure legal mysice and document exchange

Why It's worth watching: Date Cert's technology translates recores into standard formats for easier essing. Security feetures ensure document integrity. Company officers: •Erc M. Elmen, co-founder over

dent and CEO · Enc A. Smith, co-founder and nalogy officer · Geoff S. Ellman, co-founder and president of technical services

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*July 2000 First emerging companies roundedwerture funding Employees: 26. workforce-growing Bunne at 500% per year Burn menay: \$77mil

from United Parcel Service Inc. angel investors and co-founders. Preducts/pricing: ShereDoc/Legal service costs \$18,000 per year for corporations, \$2,000 per year for outside counsel lims: Web-Manager, \$15,000. FlowManager.

mers: ATAT Corp. The Boeing Co., Compaq Computer Corp., Philip Morres Cos., and others Partners: UPS, Elle information Group Inc., RSA Security Inc. Compinio Inc. and Bridgeway Soft

Red flags for IT: back office financial systems tems. Because it uses encryption throughout the system, DataCert can ensure the intearity of any document transferred through ShareDoc/Legal, including pleadings, briefs and depositions. These documents pass through untouched, with no translation or formatting required.

client should receive the bill and then uploading the docu-ShareDoc/Legal works with ment. ShareDoc/Legal does DataCert's Windows 2000based WebManager and Flow-Manager software. WebManager is an XML viewer application that lets legal departments see invoices FlowManager routes billing data and handle

the approvals process. Data Cert has integrated its softsystems most commonly used by legal departments, says Elf-That allows customers like Home Depot to directly enter information from bills into those systems for analysis.

Integration Issues The fact that DataCert's

products can be integrated with existing systems is a key part of the company's value, says Matthew Koyar, an analyst at The Yankee Group in Boston. Because legal departments generally aren't technically sophisticated, he says, DataCert can get them running more quickly than if they built a similar system in-bouse

But DataCert doesn't integrate into financial systems, says Koyar so users must use existing payment methods. In the future, enough companies may use DataCert to make it appealing for someone to

tner with the company on a payment system, he says. But DataCert's executives aren't planning on that integration. Elfman says the company

plans to expand the number of platforms that WebManager and FlowManager support. The products currently run on Windows: Elfman says he

wants to target Unix The company also plans to expand into new niches. The secure communications technology is agnostic, says Elf-man, so DataCert can easily move into markets that aren't yet moving much of their data electronically, such as insurance and health core &

Johnson is o Computerworld contributing writer in Seattle. the buzz

Legal Maneuvers

DataCert is in a hot market, and its focus on the local reches smart, says Matt Ko var. an analyst at The Yankee Group. He estimples that the market for secure content delivery will grow from an exti mated \$450 million this year to more then \$2 billion in 2005. The market an compasses everything from copyrighted material to proprietary business micro mation to bill presentment and payment

The market is in a hypergrowth phase, says Kovar, pushed by business es worting to digitize a wide vertety of material and transmit it via the internet No single technology has emerged as the de facto standard, but encryption. authentication and second postfication and confirmation are key elements of

Kovor says he also likes DataCert's plan to expand into insurance and medical riches. Organizations in those fields have big budgets and high-value transactions, with high privacy and confidentably needs, he says. They se certainly noe for this environment," says Kovor.

DataCert has limited competition be adds. One group includes systems into grators that build extranets. But in the realm of secure document delivery no other company has exactly the same service, he says, although DistaCert has competitors in both the bill presentment and document transmission markets.

RealLegal Inc.

www.documentforum.com Realingal doesn't compete with Deta-Cert in the area of bill presentment and powered but I does have services for ments. The electronic transcription ser vice will deliver documents from a court reporter via e-mail or on dislette. Electronic signature technology veniles the integrity of the document, Restlugged also offers Web-breed products for shering transcripts and depositions.

MessagingDirect Ltd. Frimonton, Alberta www.messoripedizect.com

MessagingDirect's M-Bill billing soft ware competes with DataCert's prod ucts, but it isn't directed specifically at the legal community. The bill arrives in the customer's e-mail and incorporates ment options and procedures, unlike DateCert's ShareCoopLegal Like Date Cert, M-Bill also authenticates the user's identity and engines the introcty of the document being dolvered.

T'S NO SECRET that corporate IT systems are constantly threatened by hacker attacks and virus outbreaks. But only recently have companies come to realize the potential dollar costs of security lapses.

"The really bod security breaches that would make the hair oo the back of your neck stand up are not being reported (in the medial," asys David Foote, a managing partner at Foote Partners LLC, a New Canaan, Cosm.-based research and consulting firm specializing in the IT workforce. But companies know about them, and they'ne scared."

As companies place an increased emphasis on security, says Foote, the role of the security professional is changin from a strictly back-office IT support role to one that's strategically tied in with the

entire company.

"The stakes are high," says
Foote, who is also a Computerworld columnist. "And the
higher the stakes get, the more
[security] is a business issue."

That means security professionals, especially those in

stonats, especially trose in top-level positions, will not only have to master stechnology to protect a company 's TT systems, but they will also need to understand a company's entire business and be able to piapoint which security breaches most threateo its

bottom line. Here's someone who's doing just that and is exactly the type of security professional companies will need most in the years to come.

Name: Chuck Ryan Title: Director of information security Company: Molex Inc., a 19,000-

employee manufacturer of electrical and fiber-optic connection systems in Lisle, Ill. Previous experience: Ryan is one of those experienced hands who were there in the early days of corporate IT and have watched their current grow since. He graduated in 1982 from The Citadel in Charleston, S.C., with a bachelor's degree in math and com science. He was soon installing and tuning early-model operating systems at companies such as Pittsburgh-based alu-

mioum giant Alcoa Inc. In the early 1990s, when the field of IT security was just

The New Security Pro

As IT security becomes a major priority for most companies, the role of the security professional is changing. By Zachary Tobias

CHUCK RYAN

Jeb title: Director of information security

Company and location: Molex Inc., Lisle, III.

Nature of his work: Sets security policy and performs internal audits to make sure security guidelines are

followed.

How he got the job: Ryon was contacted about the position by a recruiter specializing in placing.

security professionals.

Skills required: Thorsoph knowledge of if infestinative and IT security technicage like rewells and arrivants software is a most but Ryen says that good writing, communication and business skills are also indepensable for snyone sating security policy.

Training needed: Ryan's only formal degree is a backelor's degree in meth with a focus on computer science, which he got in the early 1890s. He picked up most of his skills on the job, which he says is true of most security profession als. Becoming a Certified Informa-Science County Science (Section 1997).

being born, Ryan landed a job as a data security administrator of Glasso Inc., a pharmaceutical company in Research Triangle Park, Nr., He set the order of the company of the set of the company of

example how to combat viruses and set up firewalls. He says those skills are important for anyone in the profession. But he also emphasizes the importance of good communi-



"THERE'S no and to what I could do careerwise," says Molec's Charles
four years ago upped the number
of job offers he gets, and he adverses
I could do careerwise," says R

other security professionals to get the certification.

Salary potential: Ryan says most security professionals earn \$100,000 to \$200,000 per year.

cation and business skills.
"Tools come and go," Ryan
says of security technology.
"But policy is the foundation,
what makes things happen."
Responsibilities: At Modex, Ryan
decides what the company's
security policies will be, relays
them to employees and does
internal audits to make sure

those guidelines are being followed.

To protect the company from virus attacks, for example, Ryan decides what antivirus software will be Installed

Cerver patts: "There's no end to what I could do cerverwise." says Ryer. He's constantly getting blo offers, since security professionals are in such high demand. His mix of writing and technical selfs also sets him in good fetted for a wide range of other business:

on employees' computers and also writes instructions that employees at all levels of the company can understand. Ryan says many security peofessionals make the mistake of focusing too narrowly on technology. He works closely with departments across the entire company to make paser that his policies are

actually accomplishing what they're supposed to. That's especially challenging — and important — in a global company like Molex. Predicting how workers will deal with something like a virus outbreak is easier said than done when you have offices as far away as Ukraine and Singapore, Ryan says.

and Singapore, Ryan says.
"You always have a preconceived notion of bow the organization works," says Ryan.
"But you have to go (to each country) to understand exactby what is going on."

And that's exactly what Ryan did. Shortly after be was hired he toured Molex offices in Asia, Europe and Latin America. He found big differences in the way offices in different countries used technology—variations that would have to be accounted for in the commany's security policies.

For example, a security policy might tell employees to go to an IT bely desk when they encounter a virus attack, but the instruction won't make much sense in an office that uses roving IT support professionals instead of help desks, as Ryan found in some of the for-

eign offices he visited.

Now, Ryan sends his new policies to managers throughout the world for review. He also keeps in close contact with those managers by telephone and e-mail to make sure

the policies are effective.

Working across national
borders takes strong crosscuttural skills, says Ryan, but
he also needs to be a good
communicator and leader at
the bome office.

As the only employee

specifically charged with IT security, he works especially closely with infrastructure managers and systems analyses to make sure they're making security a priority. He says be 'a strong believer in the ootion that security should be integrated into the work of the entire IT team and not

limited to security specialists.
"The been in environments where ... there was a barrier between the two groups,"
Ryan says. "The security folks would almost talk down to the infrastructure group. You don't get anything done in a

situation like that." 9

Tobias is a freelance writer in Santa Cruz, Calif.

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HOT PLACES TO WORK: Austin, D.C., Seattle

The element that makes or breaks information technology companies or professions is compelling work - a true innovation that secures a competitive position. And compelling work continues in these IT hat spots, providing new challenges and spawning the next generation of the IT industry.

Ahaza Systems Inc. is among those leading the way. The Seattle-based company is an Internet infrastructure company dedicated to developing network systems designed to keep data traffic moving at maximum speed. "We are focused on building a suite of next-generation switching and routing solutions for enterprise and Internet service providers," says Kirsten Joyce, director of marketing. The comp ny, whose founder Mike Almquist was the chief technology officer and co-founder of F5 Networks. began ramping up in January. "We plan to launch our first products in the fall."

To develop the new suite of switching, cacheing and routing solutions, Ahaza is hiring electrical engineers, hardware architects and software developers. "Our success depends on hiring the right people." Joyce adds. "We are a well-funded startup that is working on cuttingedge technology. It doesn't get much better than this."

Another Seattle upstart is Indaha Com the Zulu word for "conference of wise people"). Indaba's goal is to develop a platform small enough to sit on a desktop, replaces your phone and becomes a complete communications appliance for control and connectivity for regitime simultaneous interaction with a large number of remotely located participants. The company is also developing a server and software hackend to manage the platform and associated applications. "Many times, companies are facused on advances to previously created technology. Not so at Indaba," says Tim Poole, director of human resources and staffing. "We are developing new and compelling products for the next generation of communications."

To develop the technology, Indaba is hiring operating systems engineers - "what we call kernel hackers," says Poole, "We're looking for a person's ability to resolve complex issues that have not yet been resolved You have to be up for research and for enormous technical challenges. In exchange, we offer challenging work, a great location and a company that truly respects its people. When we hire, we use a fairly rigorous process to assure the fit is equally right for the conditions and for the company.

Head south from Seattle, to Austin, and Advance Micre Devices is also working hard to develop entirely new technologies. "We're hiring in a variety of areas," says Shirley Wallace, employment



people with a facus on microprocessor design and software development."

ace likes to say that AMD is built on solid core AMD values. As the primary competitor for Intel, "our customers' success is our success. We seek to create and maintain lasting relationships based on trust and shared vision," says Wallace. The company continues to invest heavily in research and development with major locations in Austin, California and now Drenden, Germany. "Supporting people has always been our mantra here at AMD," she adds. "When people come here, they see and feel that, everywhere. As an example, we continue to reward performance - when other companies have cut back. This is also one of AMD's core values - people first and products and profits will follow "

Indaba and Ahaza could fit as departments within AMD, which now employs 14,000 people worldwide. "Despite that size, we encourage people to wear different hats, and we keep our teams fairly small and agile," Wallace explains. "We are a leading technical company in the flash and microprocessor businesses, where you must have a passion for being on the leading edge of technology development. You work along side experts at AMD, and we're dedicated to getting leading edge technologies to our fab floor's before our competition."

Head across country to Washington, D.C., and the mix of commercial and government sector information technology needs continues to support a thriving job market. PricewaterhouseCoopers' Mark Bradley, recruiting director for the Washington Consulting Practice, says that while career opportunities have slowed in other regions, the D.C. market remains strong. "The D.C. metro area offers unique and

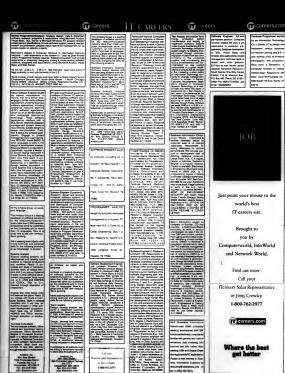
commercial, government sulting companies," says Bradley. "This combination of services and industry has helped put D.C. on the

PricewaterhouseCoopers offers a full spectrum of services to its clients. "Working in the government sector gives us the apportunity to improve and, in same coses, change the way our government functions," says Bradley. "We offer a wide array of technology services, to include e-business, enterprise application integration, enterprise resource planning and various web-based application services. We look for people who are multi-dimensional, who can contribute in multiple ways to a variety of projects and clients." The firm hires new college graduates, MBA and graduate students, as well as experienced professionals

Bradley states, "Unlike many consulting hims, we do not hire people to fill slots on a job. We view each hire as a new long-term, professional relationship Our consultants often move from project to project. diversifying their skills and experience, thereby impr ing their value to the firm and to the market in gene We work hard at accurately mapping someone's skills and interests with the needs of our clients. The single greatest attribute we have is our people "

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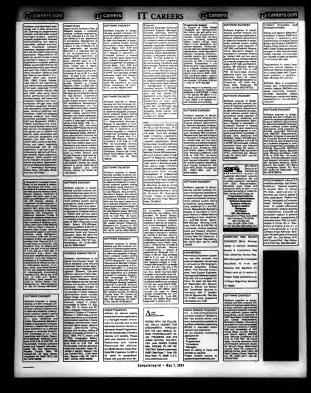
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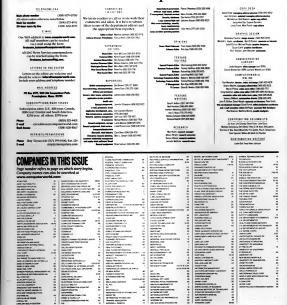
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Ingersoll-Rand Offers Procurement Service

Manufacturer sells in-house supply chain expertise to other Fortune 1,000 companies

PANUFACTURING giant Ingersoll-Rand Co. thinks it can succeed where nost businesses fail: in linking mom-and-pop suppliers to

large online supply chain procurrement systems The Woodcliff Lake, N.J.based firm is internally betatesting a service called The 21st Supplier from a new business unit with the same name. The service for Fortune 1.000 Gross will take on the headaches of tying small suppliers

to a company's back-end inventory, planning and logistics systems, said Bill Lindquist,

business unit leader at the Torrington, Conn.-based start-up. Analysts say this is an interesting, innovative and potentially trendsetting move, despite the general slowdown in investment in electronic busi-

ness systems. "Procurement is ripe for outsourcing," said Karen Peterson, an analyst at Stamford Conn-based Gartner Inc. But. she added, although Ingersoll-Rand is "ahead of the curve" off a significant piece of the

The timing is right for this here, "it lacks a track record and will probably only succeed serving industries it's already

doing business in." Ingersoll-Rand is an \$8 bil-lion firm with 100 factories and \$4 billion per year in direct

materials procurement. It has built the direct materials procurement system based on its own experience, with software from Bedford, Mass-based Supply Works Inc., to draw in a viable new revenue stream. said Lindquist. Via a browser. pensive project." suppliers can synchronize their processes to their cus-

tomers' planning and procurement cycles. Lindouist claimed that 21st Supplier will be able to shave

20% to 30% in administrative and other costs incurred when making purchases. And instead of many invoices, customers will be able to pay just one to 21st Supplier.

sort of supply chain project, said Tving It an analyst at Enterprise Applications Consulting in Daly City, Calif. But it

will be hampered if it doesn't give the sepoliers any tools to manage their own back-end processes, and that could make it "a complex and ex-

Nevertheless, Lindquist said, The 21st Supplier is in advanced negotiations with a few potential clients he declined to

But it will still be a tough sell

frozen food maker Anchor Food Products Inc. in Appleton, Wis. It recently went live with a homegrown Web system that lets its suppliers check on production schedules manufacturing updates from

its 1.D. Edwards & AT A GLANCE Co. enterprise resource planning application. Anchor expects Together to save up to \$5

million this year in Inversoli-Rand's 21st inventory reduc-Supplier service will tions, said Craig handle the following: · Supply chen and logetice Elonen, an analysi If Anchor out · Execution and sourcing

sourced the pro curement, it would ship it has developed with sup

pliers, Elonen added. Down the line, it "could not into finger-pointing (between the outsourcing company and the suppliers) if something to many companies, such as went wrong," Einnen said.

Continued from page I

procurement software is ex-tremely diverse: Ariba holds an 18% market share in a space with more than 90 vendors, according to Framingham, Mass. based research firm IDC, and many users have already committed large sums of money to sparate technology paths. What I want to know is, Will the major vendors be able to put aside their egos and do

In the Lead

ercse revenue for antine



Motor Co. among its cus-tomers, as well as Toledo, Ohio-based Dana Corp., the largest supplier of drive shafts and piston rings. Mueller argued that the Big Three seem more interested in

operating Covisint "as a manipulated puppet." He said he believes that they will drop their support of the exchange if they see competitors getting better value with other models.

based Covisint picked Oracle

Corp. and Pleasanton, Calif.

based Commerce One as its

However, Ariba claims Volks-wagen AG, Bayerische Mo-

toren Werke AG and Honda

lend technology providers.

something that's good for the market?" said Melissa Span-"I think ultimately, GM will use technology to do their own thing, and Ford will use Oracle gler, director of e-marketplaces at Ariba customer Fleetto do their own thing, and eston Financial Corn. they'll go their separate ways,"

The auto sector is one indus Mueller said. try that's already largely com-mitted. Ford Motor Co. and Covisint spokesman Dan Jankowski said the perception General Motors Corp. bought that the marketplace 14.4 million shares each in Arivisint has been building an inha rival Commerce One Inc. in January as part of the equity frastructure "that can serve an structure of Covisint LLC, the incredibly large industry," and massive automotive exchange it hopes to be operational befounded by the Big Three au-tomakers. Southfield, Michfore the end of the year.

In the pharmaceutical industry, Ariba has captured several high-profile customers, including Merck & Co., Bristol-Myers Squibb Co. and Pfizer Inc.

But some players have gone sewhere. GlaxoSmithKline PLC in London decided to throw its business to FreeMarkets Inc. because of the premerger relationship Kline Beecham had with Pittsburgh-based FreeMarkets, dat-ing to 1999. In January of last year, Eli Lilly and Co. in Indianapolischose Commerce One to automate the purchasing of

ods and services throughout

"What this means is you're as CEO, said Ariba will be ofgoing to see some real fights for dominance in those areas, and the winners will set the standards," said Hari Srinirasan, an analyst at Banc of America Securities LLC in Sao

Francisco. Srinivasan added that it will likely leave customers searching for the best of breed in a dogfight with no Muellet, who last week replaced Chairman Keith Krach to this report.

fering better business-to-busi ness network connectors and extensions to help link trading partners in the coming Ariba is coming off a quarter

in which it lost \$48.3 million from operations. Revenue came in well below expectations, at \$90.7 million.

Linda Rosencrance contributed

12 Joins Ariba in Naming New CEO 12 Technologies Inc. last week announced that Grag Brady, the company's president, will take over

planning to out more than 600 workers after its first-quarter profit came in at a level nearly 50% below that of one year earlier, Ariba said 700 of its 2,100 error





FRANK HAYFS/FRANKLY SPEAKING

Privacy? Bank on It

EMEMBER THE Y2K SERMON? Back in 1999, the American Bankers Association wrote a sermon for preachers to deliver, telling the people in the pews not to panic over Y2k and to trust their bankers. (As bad ideas go, this one was a lulu - I never found one minister who even thought a sermon written by bankers was a good idea, much less one willing to deliver it.)

Now a lobbying group backed by the ABA is claiming that data privacy will cost bank customers billions of dollars and hundreds of millions of hours of wasted time every year. This time, the bankers didn't try to turn preachers into their mouthpieces. Instead, the Financial Services Coordinating Council sponsored a study by

That's the

price of

privacy at the

bank: 17 cents

a day.

banker-friendly Ernst & Young LLP. The study's breathless conclusion? Based on responses from 90 large financial-services orga nizations, Ernst & Young says it will cost U.S. customers at least \$16 billion and 305 million ours per year if the law requires customers to opt in for data sharing and if less than 10%

agree to oot in. Did you spot the jokers in this deck? Let's put it another way: If more than 90% of Americans think banks sharing their confidential data is a lousy idea, it will cost them each 12 seconds and 17

cents a day to do without it. That's the price of privacy at the bank: less than 20 cents a day Not a very compelling argument to agree to data sharing, ch?

If you think this is just a problem for bankers, think again. Yes, w data privacy regulations for U.S. banks kick in July I. But the clock is ticking for the rest of us. too. Sooner or later, we will have to deal with tighter privacy regulations, whether because of proposed federal or state laws or Eu-

ropean requirements for dealing with customers across the water. And we (or rather, our companies' marketing departments)

will never persuade customers to share their data just to save pennies a day. We'll have to promise a lot more and every marketing promise means lots of work for IT.

Security, for example: Our companies will have to convince customers that their personal data will be safe, whether they opt in or out. That means safe from unauthorized use, but also safe from crackers and catastrophes For IT, that means security holes have to be

closed immediately and software patches must be applied prooto. But it also means tightening up data access policies that have been getting looser ever since our first departmental and

client/server systems were plugged in. And flexibility: We'll have to let customers choose how much of their data will be shared. It's a lot easier to

sell a little data sharing than a full boat. But in the IT shop, that will require more processing power to constantly filter data and lots of tweaks to enterprise applications to support that customized data handling

And customers will have to see real advantages to sharing their data - not pennies or seconds saved, but new products and services that better meet their needs at a lower price. How will that happeo exactly? That's for the business guys to dream up. But you can bet IT will have to make it happen, and fast. If we doo't make losing privacy worth it for customers, they'll just say no.

Of course, maybe we'll all be a little luckier. Maybe the bankers guesstimate of 10% opt-in is just a little parapoid. Maybe most of our customers will be glad to share their data.

But doo't count on it. Faced with everything from spam to identity theft, lots of people are plenty sensitive about privacy these days. So when it comes to data sharing, we probably won't be preaching to the converted.

Hayes, Computerworld's senior news coli red IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

SALES STAFF at electrical parts distributor knows the buye has added a new line of fuses but can't bring them up in the system IT refet tish discovers why. The buser has added an esteroix to the front of each of the new hoses' next revelvers He told me the astersk is what he uses to bring up 'everything like theif in a search," fish reports. 'So if he out the asterish right in the part numbers, they'd be that much easier to find."

NEW-HIRE PROGRAMMER esks meneger plot fish's help in getting a new program running. You need a phase name for your program." Ish tells the programmer. "About 15 minutes later," says fish. "The accounting department manager, whose name is Faye, wants to know why the programmer needs her name for his omoram "

RENOTE OFFICE STAFF decides to upgrade its own printer instead of waiting a week for (T to help. "I know how to set up a nter," steffer tells priot fish. A week later, fish gets a call: They're having "issues with the drivers." The drivers turn out to be OK, but fish finds the probiem. "They had somehow forced the ink cartridge in upride down and beckwards." She pries if out and inserts it correctly. "What was the problem?" staffer asks. The cartndoes were out in wrong," fish says, "But," staffer exclaims. Those were the ones that come with #F AFTER THAT, WHO WILL

CARE? Transit agency is about to go live with a financial soft were upgrade and a shift from VMS to Unix when pilot fish gets word from on high. There will be a disaster recovery test two days before the switch - on the old VMS system. "It look several phone calls before I could get any agreement to postnore the test." Ish says

JUST SAY NO TO TIME SHARINO Trucker hits a sneg. first trying to make a delivery. then irving to get into the data hase to check on it. He calls bracks rather and an IT-rance scheduler tres to help. "Are you using TSO?" he asks. "Listen. buddy," growls the trucker, "I

Just say yes to me: sharky@ computerworld.com. You get a sharp Shark shirt if your true tale of IT sees print - or if if shows up in the daily feed at computerworld.com/sharky.

don't do drugs!

The 5th Wave



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